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ABSTRACT

A study to provide the National Center for Educational Communication (NCE) with information that could be useful in making the ERIC data base more relevant to the needs of educators and more efficiently usable by them is discussed. Specific purposes of this project were to use an empirical field-survey study as an armature around which to: (1) Clarify the concept of file partitioning in terms of the mechanisms by which partitioning achieves its effects; (2) Identify technical requirements and prerequisites for effective partitioning of the ERIC data base; (3) Identify alternate possible initial trial ERIC file partitions that would appear to have some reasonable likelihood of success; and (4) Recommend a general course of action to follow in obtaining still more definitive data on which to base managerial decisions. The project involved three data-gathering activities. These were: (1) a review of current ERIC practices, (2) a review of some current ERIC-related studies, and (3) a questionnaire survey. A comparison of the 15 user-group profiles created by the cross-tabulations revealed some similarities that cut across all groups, as well as a number of differences that set the groups apart. A three-part integrated program is recommended that would provide for the development of the required improvements in the descriptive system and for the testing of candidate partitions. Program parts are: (1) Develop and elaborate nonsubject descriptors for ERIC documents; (2) Develop associations between descriptor and candidate partitions; and (3) Perform selective dissemination of information experiment. (Author/CK)

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EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) FILE PARTITION STUDY: FINAL REPORT

AUGUST 1972

CYNTHIA C. HULL
JUDITH WANGER

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SYSTEM DEVELOPMENT CORPORATION

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CYNTHIA C. HULL
JUDITH WANGER

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Cynthia C. Hull
Judith Wanger

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I. INTRODUCTION

A. PURPOSE OF THE STUDY

The general goal of this study was to provide the National Center for Educational Communication (NCEC) with information that could be useful in making the ERIC data base more relevant to the needs of educators and more efficiently usable by them. The specific purposes of this project were to use an empirical field-survey study as an armature around which to:

- clarify the concept of file partitioning in terms of the mechanisms by which partitioning achieves its effects, the conditions required for effective partitioning, and the practical limitations to the usefulness of partitioning.
- identify technical requirements and prerequisites for effective partitioning of the ERIC data base, in particular, addressing important questions of feasibility that need to be solved if partitioning were to become a reality as a general operational procedure.
- identify, through empirical means, alternative possible initial trial ERIC file partitions that would appear to have some reasonable likelihood of success.
- recommend a general course of action to follow in obtaining still more definitive data on which to base managerial decisions.

The first two objectives are addressed in this Introduction; the others are addressed in Sections V and VI.

B. THE CONCEPT OF PARTITIONING

1. Presumed Mechanism of Operation

The presumed mechanism by which partitioning of files achieves desirable effects is that of minimizing the expected ratio between the proportion of items of irrelevant or noisy information delivered to a "typical user" as compared to the average degree of relevance, pertinence, or usefulness of the items he receives. This definition holds whether the desirable effects of partitioning are being sought for purposes of improving the accuracy of retrospective or demand searching; improving the impact and usefulness of SDI services; or for easing the administrative and operational problems of file maintenance, updating, and expansion. In each case, to achieve a given goal of informedness for a typical randomly selected occasion of use, the amount of information that must be scanned (either by a machine or by the human user) is kept to a practical minimum. (Below this practical minimum, the maintenance costs of further refining the output exceed the accumulated benefits to the users.)

This definition employs the phrases "expected ratio" and "typical user" to emphasize the idea that the advantages (under some conditions) to be gained from partitioning of files are dependent solely on the correctness of previous analyses of the situation; in fact are dependent on the accuracy of predictions of the expected behavior and requirements of the average or typical user who is a composite representative of a homogeneous user group. (While the same can be said of all forms of artifacts in support of information services, the goals and assumptions of file partitioning make this dependency somewhat more transparent and more crucial.) While the notion of "proportion of items of irrelevant or noisy information" is directly equivalent to the well-known concept of search precision (after Cleverdon), the idea of "average degree of relevance, pertinence, or usefulness of the items he receives" is not directly equivalent to Cleverdon's concept of recall value, though it is similar. Cleverdon's recall value is defined as the proportion of the items existing in the file exhibiting a certain degree of relevance or greater, that were delivered by the search. This definition emphasizes the accuracy of the searching mechanism in providing an exhaustive response in relation to the material available in the file. On the other hand, the present definition does not emphasize exhaustiveness, but rather selectivity of file contents (and output delivery) in relation to an expected pattern of need for information.

The concept of file partitioning is, therefore, not confined to improving the transmission capabilities of the information system by improving the information description language and search mechanics. Rather, it aims to supplement these techniques through the more active mechanism of (effectively) filtering the input to file partitions to achieve a high ratio of predefined information utility as compared to the amount of scanning activity required by the system, the user, or both in obtaining the information.

In relation to retrospective demand searching, this efficiency is gained, partly, by reducing the number of iterations of the query formulation required of the user to gain the desired output and, partly, by sharply reducing the size of the file that the system must scan in order to respond to each of the user's requests. Both sources of savings of scanning effort can be very significant in reducing costs.

In relation to the perceived utility of published products, file partitioning may prove to be an aid in several ways. First, it can improve the scan-yield ratio for readers by reducing the proportion of irrelevant items seen while at the same time increasing the average relevance of the remaining items delivered. Second, it may operate to provide a cohesive need-group identification conceptualization around which can be organized activities of refining that concept, of improving the service in relation to it, of obtaining concerted feedback in relation to it, and of mounting effective promotional campaigns in relation to it.

In all these cases of possible benefits, the actual effectiveness achieved will depend on the degree to which the file partitioning patterns actually reflect the patterns of user need as they are translatable into patterns of selection from amongst available information.

In relation to the value of file partitioning for the activities of file maintenance and file management, there are two main sources of possible gain. First, the requirements for currency and the useful life span of information both vary for different kinds of user groups. Therefore, file updating and purging operations, to remain efficient, must vary for different kinds of information and can often be more easily managed if the same rules apply to all information within a given partition, while different rules apply to other partitions. Second, it is likely that the task of identifying gaps in the available literature or in the file holdings would be made easier for system personnel and for users if information were organized into user-responsive file partitions.

2. Components of the Partitioning Concept

Without regard to situation-specific feasibility and cost/effectiveness considerations, three general components must exist for a given file partition to have the potential of being useful. These are, a stable and convergent users' need pattern, a stable and discriminating set of information identifiers and descriptors, and a certain defined minimum of overlap with all other users who are defined as being outside the group showing that need pattern.

While the concept of a stable and convergent users' need pattern may seem obvious, it has subtleties that deserve some discussion. Stability is a relative matter, of course, but for a file partitioning pattern to be effective. it must accord well, and be kept current, with the users' actual need pattern. If the users' need pattern changes too rapidly, the cost of maintaining an accurate picture of it may well exceed the value of the file. Thus, it is important to try to evaluate the expected rate of change for a particular group of users and to take the cost of maintaining an accurate picture of the current patterns of needs into account, in considering whether file partitioning would be a useful strategy to improve the cost/effectiveness of the services provided to that user group.

In addition to being stable enough, the users' need pattern must be convergent enough. Another way of saying this is that a users' need pattern must be homogeneous enough so that any single "need-envelope" description depicts the needs of a sufficiently large group of users so that the cost of the procedures to partition the file will be balanced by the value of the benefits weighted by the number of users receiving them. A users' group might well be made highly convergent by excluding "deviant" cases from it, but the result could be a group too small to justify the costs of establishing a special partition for them. Thus, there is yet another practical limit to the extent to which files can be usefully partitioned and subpartitioned, and it is a technical challenge to formulate criteria for appropriately estimating that limit.

The requirements for a stable and discriminating set of information identifiers and descriptors are also apparent. As for descriptor stability, if the meanings attributed to descriptors by users are at great variance with those attributed by indexing personnel, for example, or if the pattern of use of a descriptor or identifier changes significantly over a short period of time, the matching mechanics of the system will be distorted by that amount. Such mismatching will be reflected in less accurate patterns for file partitioning. The problem of identifying discriminating descriptors and identifiers is a general one. If a distinction that clearly discriminates between the need patterns of two significantly different user groups has no well-understood representation in the vocabulary or indexing procedures used to characterize the information, that distinction cannot be used as a basis for partitioning the file. While this seems obvious, it is not always clear, for example, that in practice, document form designations used to discriminate items presumed to be of interest more to either applications-oriented or to research-oriented ERIC user groups do correlate well with the actual contents of the items. Thus another very important task is to ensure that, as potentially useful user-group file partitions are defined, appropriate and truly discriminating judgmental criteria and associated identifier tags are devised and refined and added to the indexing procedures.

A user group might exhibit stability and convergence of needs and there also might be a stable and discriminating set of information identifiers and descriptors, and still the group might not be useful as a basis for file partitioning because it fails to meet the third minimum criterion, which is to possess a certain defined minimum of overlap with all other users outside the group. This is another way of describing the technical problem of establishing cutoff criteria and cutoff points for defining the outside limits of the descriptive envelope that characterizes a group's need and use patterns. This problem is complicated by the fact that user group boundaries are not always symmetrical and mutually exclusive; one interest group can be completely or partially a subset of another more inclusive interest group, the members of the more inclusive group being interested in all or a large portion of the material of the included group, but the members of the included group being interested only in their own material and not in that of the more inclusive group. Something like this may appear in certain areas of the researcher-practitioner distinction, where the researcher sometimes has a more inclusive interest pattern; or, again, in the patterns of interest exhibited toward eductional methods and materials aimed at remedial versus standard educational practice. It would appear that the minimum requirement for lack of overlap necessary to make a corresponding file partition of practical use would be a condition of asymmetry in which a smaller "included" interest group shows a clear and well-defined lack of interest in material that is of interest to the larger "inclusive" group who have a broader interest pattern covering the material of the smaller "included" group. In this case, the justification for establishing a file partition for the smaller group would be the usual one of efficiency described earlier. The fact that another broader interest group was also interested in this area of material would enter consideration in only two ways. First would be a methodological consideration: to ensure that the broader interest pattern data was not gathered and analyzed in such a way as to obscure the requirements of the narrower interest group. The second would be an operational consideration: to establish easy and suitable means by which the broader interest group would have access to the narrower group file partition. The asymmetrical pattern just described may turn out to be more common than the symmetrical case in which two or more groups actually exhibit mutually exclusive interest patterns. This complicates both the file partitioning strategies and the operational procedures necessary to reap the potential advantages from file partitioning.

3. Conditions Required for Effective Operational Partitioning

Some of the conditions necessary for effective partitioning have already been discussed in the previous section. These include high-grade vocabulary support and maintenance and high-grade indexing practice which incorporates the item tags and identifiers necessary to allow materials to be sorted into the different file partitions. Two other conditions that appear necessary for operational success are the existence of an efficient continuous sensing mechanism to allow for sensitive, accurate system response to requirements imposed by the changing and expansion of information activities and, second, the existence of an explicit plan for system development and for the operating system configuration, so that responsibilities and areas of purview can be allocated, so that areas of conflicting interest can be identified, and so that mutual understandings are properly documented. The point is that file partitioning as an operational strategy will not simplify operations or make them less costly; it will, rather, complicate them and make them more costly. Provided file partitioning turns out to be warranted, this additional cost is the price paid for achieving for the user a technically superior service.

The added structure in the system represented by file partitioning programs increases the system's vulnerability to change, if only in the sense that change not sensed and adapted to might reduce the quality of service to that represented by the earlier operation, while still incurring the extra costs attendant on file partitioning. This added vulnerability must be compensated by a correspondingly higher level of effort in adapting the system to change and in managing the more complex configuration.

4. Practical Limitations to the Usefulness of Partitioning

Two kinds of limitations have already been discussed: (1) areas of material where the rate of change in characterization and use of information is too great; and (2) the cost-effectiveness limits that will inevitably be reached if the file is partitioned and subpartitioned into ever-finer categories representing smaller and smaller user-interest groupings. There are at least two other kinds of practical limitations that deserve mention. One has somwhat the quality of a mild paradox: while it is the areas of high interest and usage that would appear to generate the necessary justification for the extra expense of file partitioning, it may well be that some areas of low interest and usage would benefit most from the improved service. This represents another factor that mitigates against a simple cost-reduction or efficiency justification for introducing file partitioning, and further reinforces the idea that better service will inevitably cost more.

Another practical limitation has to do with users' insensitivity to system-incurred costs as compared to costs incurred by themselves. As one example, in a dial-up on-line retrieval service, users will be very sensitive to speed of response if they themselves have to pay charges for telephone connect time or computer time, and will be much less concerned about system-response latency if all costs are absorbed by public funds. A user who has to partially or completely pay for the services rendered him will be much more appreciative of the efficiencies created by proper file partitioning.

In view of the evidence to be cited later of the considerable demand-search use made of some ERIC products not designed for that purpose and in view of high cost of demand search services, the importance of file partitioning for ERIC demand-search services that are partially user-paid should be evident. Further, each proposed application of file partitioning needs to be considered in terms of whether its effect can be sensed easily by users to justify the extra costs involved.

C. SOME PREREQUISITES FOR EFFECTIVE OPERATIONAL PARTITIONING OF ERIC FILES

If the continuing investigation of the ERIC users' information use and need patterns indicates that file partitioning should be useful and practical, at least three main areas of planning requirements and technical concern will need careful consideration. These are: (1) ERIC vocabulary control, thesaurus development, and indexing practices refinement; (2) ERIC operational centers organizational structure and work and budget allocations; and (3) ERIC system services expansion plan. References are scattered through the text of this report to each of these areas of concern wherever appropriate to the technical discussion. The brief treatments here of each are intended to cover some points that find no opportunity for discussion elsewhere and, also, to provide a rounded sketch of each body of considerations as seen in the light of a prerequisite.

Vocabulary control, thesaurus development, and indexing refinement practices are activities that share the common ground of concern for the accuracy and mutuality of information description. Two underlying factors govern much of the planning and direction of these activities: control of "nyming" relations between terms (synonyms, hypernyms, hyponyms, antonyms, and associative terms) and control of context-sensitive ambiguity in interpreting terms and phrases. Both the "nyming" relations of a term (or phrase) and the sense-usage interpretation of it are often context sensitive in that these factors vary depending on the text in which the term or phrase is embedded. This is particularly true of detailed interpretations and specific nyming relations of medium-level terms in generic-specific hierarchies, which are the terms often carrying most of the communication load in uncontrolled indexing operations. The complexity of both these factors increases as a function of range of diversity of topical content in the corpus of discourse (information) from which the term or phrase is extracted or to which the term or phrase is applied as a descriptor. The obverse implication is that file partitioning can have salutary effects on these two factors. Two such effects are identifiable: first, proper file partitioning will reduce the noise of both nyming and context-sensitive ambiguity for terms as used in reference to each file partition, provided that their use in indexing, data description, and query formulation is explicitly with reference to that file partition. Second, in order to realize these potential gains for many terms and phrases, different nyming relations and sense-usage definitions will need to be depicted for use with different file partitions. From a practical standpoint, the nyming relations of terms in a thesaurus are usually used to improve the ease of entry to a controlled vocabulary subset, by developing pointer relations from easily recalled but imprecise or ambiguous terms to hard-to-recall but easily recognized terms and phrases that have, or can be assigned, precise interpretations. These pointer relations are likely to vary somewhat from file partition to file partition. And while they will yield real gains in communication accuracy and reliability if properly handled, they do require extra effort in the vocabulary control and indexing operations.

It is clear that a pattern of file partitioning in ERIC is presently in effect and that this pattern is correlated with the organizational structure and assigned responsibilities of the ERIC centers. It is also clear that if a radically different file partitioning were to be adopted, a different organizational structure might be needed, and that problems of efficient reallocation of effort and problems of organizational change could be created, but these are beyond the scope of competence in the present report.

What is worth mentioning in this regard is that data from past, present, and possibly future studies that are aimed at the problem of new partitions for the files are drawn from users whose expectations and usage patterns have been conditioned by the present partitioning structure of the files. There is no objective way to assess the degree to which users' reports may be distorted by pro or con reactions to the present file structure. What can be stated is that user evaluations and reactions should not constitute an unquestioned 100% of the evidence by which file structuring plans are formulated, and that an objective yardstick or method that frees evaluations from dependency on the present file structure would be very desirable, if such could be discovered. However, to the extent that present users habitually contact more than one file (or center) for the bulk of their information needs, there is reason to question the efficiency of the present design.

Evidence cited elsewhere in this report suggests that expansion and proliferation of the range of services offered by ERIC is all but inevitable. Three examples are the likely development of PIE (Practices In Education) reports as a complement to RIE reports, an increased emphasis on the alerting function of SDI activities, and the advent of widespread dial-up, on-line demand services for ERIC users. Each of these has some implications for possible file partitions that do not now exist and for which the need might not be directly inferrable from the evaluative responses of users. The conclusion we draw from this is that some file partitions and services may need to be tried out without "hard data" justifications for the trial and supported more by analogy, imagination, and an act of faith during the test trial period.

D. OVERVIEW OF FIELD SURVEY

The major project activity was the conduct of a questionnaire survey from which user group profiles could be developed and examined for the feasibility of translating them into user-related partitions. As background for considerations in file partitioning, the project staff also reviewed current ERIC practices and some of the current ERIC-related studies.

As initially conceived, the project also involved an analysis of the current ERIC file, which is indexed and, therefore, accessed by subject descriptors. Candidate partitions were to be made solely along subject dimensions identified through a cluster analysis of currently used descriptors and matched against the survey results of educators' information requirements. At the request of NCEC, the design was broadened and placed into a prospective framework so that non-subject descriptors (e.g., document-type tags) could be explored for their potential in the identification of future file partitions that reflect the different needs of educators groups.

1. Project Background

The first task in the initial project design was to develop subject-area dimensions of the ERIC file. These dimensions were to reflect file content in terms of subjects--represented by the Thesaurus descriptors--that are regularly linked together in practice by system indexers. The basis for determining linkages between subject areas were frequencies of descriptor use and consistent strong relations between terms. The 750 terms that were used most often by indexers to describe documents in the current file were subjected to a statistical analysis which displayed frequently co-occurring terms.* These co-occurrences were to become the empirical bases for the conceptual dimensions.

The questionnaire was, at that time, organized around the subject dimensions generated in this task. The educator would have indicated his interests from a list of approximately 100 dimensions and have answered questions related to these interests. An analysis of the relation between the subject dimensions and various groups of educators would have become the basis for partitioning the ERIC file.

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*Although this task was not completed due to the change in direction of the study, a description of this preliminary analysis and some discussion of the results are included as Appendix A of this report.

With guidance from NCEC, the emphasis on subject areas was shifted to a broader concern for developing partitions along non-subject-related dimensions that might reflect the profiles of different user groups. The approach then became less retrospective. Documents in the current file are represented primarily by subject descriptors since current indexing does not cover non-subject document characteristics such as document types. Further, this prospective attitude was in keeping with NCEC's desire to identify needs for new products and file areas that required greater coverage.

2. Development of User Group Profiles

Design of the Questionnaire

Although time and cost restraints precluded the complete redesign of the questionnaire, a major effort was undertaken to adapt it for purposes of exploring several profile elements, including the following information-need areas:

- Broad subject areas
- Uses or applications
- Document types
- Frequency of need
- Intensity of need

Questions were also included that concerned respondents' role and function, personal background information, and current information use patterns with respect to principal sources currently used and use of ERIC. A final question was posed in a free response to solicit recommendations for new products.

A major feature of the questionnaire was the linkage of the responses to each question with different subject areas or uses considered of primary importance to the respondent. In this way, it was hoped that distinguishing patterns of needs--in terms of subjects or uses--could, if they existed, be revealed for purposes of identifying different partitions for a given user group.

Conduct of Survey

In an attempt to reach a proportionate sample of 3145 educators, representing 28 categories of educator groups, 6919 were surveyed. The primary sampling units in this nationwide survey were 20 school districts in 18 states. To cover the broad spectrum of educators, other sampling units were added, including private nursery or preschool institutions, junior colleges, adult educators, private vocational and technical institutions, institutional and university researchers, and state agency personnel.

Although questionnaires were mailed to 6919 educators (representing a 2.2 oversample), a total of 2258 questionnaires, or 33% were returned and analyzed.

Data Analysis

The data from the survey questionnaires were tabulated to create profiles for 15 user groups. These profiles showed the patterns of information need for the various groups and provided a basis for considerations of study implications and recommendations.

E. ORGANIZATION OF THIS REPORT

The highlights of the report are given in summary form in the Executive Summary which follows. Chapter III, Project Activities, outlines the methodology of the study. Chapter IV, User-Group Profiles, contains the information-needs profiles of fifteen user groups, as drawn from the survey data. Chapter V discusses the implications of the study, and the final chapter presents the recommendations derived from the study. Supportive data and materials are contained in four appendices.

II. EXECUTIVE SUMMARY

A. INTRODUCTION

The general goal of this study was to assist the National Center for Educational Communication (NCEC) in formulating plans for making the ERIC data base more relevant to, and usable by, the broad spectrum of educators. The specific focus of the study was on the concept of file partitioning and on the promise and problems associated with applying the partitioning concept to the ERIC file.

The objective of partitioning is to help minimize the proportion of irrelevant information delivered to the user and maximize the average degree of relevance of the items that he does receive. Achieving this goal is dependent on the degree of accuracy with which we can predict the information needs of the typical user for whom the file partition is intended. File partitioning improves the transmission capabilities of the system by actively filtering the input to file partitions so as to help achieve a high degree of predefined information utility, with a minimum of post-search scanning activity by the user.

To be potentially useful, a file partition must be based on stable and convergent patterns of users' needs, must be described by a stable and discriminating set of information identifiers and descriptors, and must involve a defined minimum of overlap with all other user groups. To be effective, file partitioning requires high-grade vocabulary support and maintenance and high-grade indexing practice and operational control.

File partitioning will, in all likelihood, make operations more complex and costly but, if done on a sound technical basis, it can provide the users with a technically superior service.

B. PROJECT ACTIVITIES

The project involved three data-gathering activities. These were:

- A review of current ERIC practices;
- A review of some current ERIC-related studies, and
- A questionnaire survey.

1. Review of Current ERIC Clearinghouse Practices

The review of current ERIC practices focussed on an examination of clearinghouse efforts in partitioning and document tagging and the concerns in these areas that were expressed by clearinghouse personnel. Interviews with personnel from each of the several clearinghouses yielded the following findings:

- Many clearinghouses divide their coverage into a small number of broad subject areas.
- Many clearinghouses use nonsubject tags, but the methods for applying these tags differ.
- Clearinghouses using document-type descriptors use them only when an individual indexer feels they are necessary or appropriate.
- There is no agreement among clearinghouses on the value of document-type descriptors.
- There is also lack of agreement on the value of a time-based division of the file.
- Some clearinghouses tag documents by educational level.
- Current nonsubject descriptors are not always used and, in some cases, they are not used with any degree of regularity. This inconsistency is caused, in part, by the lack of standard guidelines for using these kinds of descriptors.

- There is general agreement that some method of subsetting the file would make retrieval and, consequently, dissemination more manageable.

2. Review of Current ERIC-Related Studies

Three recently completed studies of the ERIC system were reviewed by the project staff for their possible contributions in considering the need for, and benefits of, partitioning. The data collections in each study were also examined for their usefulness in defining the actual partitions. The three studies are:

- Evaluation Study of ERIC Products and Services. Bernard M. Fry. Graduate Library School, Indiana University, Bloomington, Indiana. March 1972.

- Evaluation Study of NCEC Information Analysis Products: Final Report. Judith Wanger. System Development Corporation, Santa Monica, California. June 1972.

- Alternative Models for the ERIC Clearinghouse Network. P. W. Greenwood and D. M. Weiler. The RAND Corporation, Santa Monica, California. January 1972.

The purpose of the Fry study was to examine the use made of ERIC products and services by members of the educational community and, in this context, to evaluate the extent to which the ERIC system is achieving its objectives.

The purpose of the Wanger study was to evaluate the quality and utility of these products, to assist USOE in developing policy-related guidelines for the development and dissemination of NCEC information-analysis products. The purpose of the Greenwood-Weiler study was to provide NCEC with exemplary alternative models for the ERIC clearinghouse network that could render ERIC more responsive to the needs of the education community.

There was a notable degree of consensus in the three studies (and in the review of present ERIC clearinghouse practices) on a number of issues and considerations regarding possible future directions for design of the ERIC system:

- It is desirable to identify minimum-overlap subsets (partitions) of ERIC materials explicitly keyed to homogeneous user groups.

- If the acquisition policy is broadened to increase ERIC coverage of nonresearch materials, the need will also increase to differentiate clearly the kinds of documents to be contained in partitions of the file.

- The creation of user-related partitions would require the development of detailed indexing guidelines so that indexers could apply the different kinds of descriptors consistently.

- Partitions might be useful as a means for supporting selective dissemination practices, including the dissemination of mini-RIEs targeted to different user groups.

3. Conduct of Questionnaire Survey

The conduct of the questionnaire survey and the analysis of data gathered by the survey constituted the major study activity. The survey instrument was designed to determine the information needs of educators relative to a variety of subject areas, information uses, and document types. It was also intended to survey awareness and/or use of ERIC products and services and to gather suggestions from both users and nonusers about the most useful types of products and services that ERIC might provide.

The questionnaire was administered to a proportionate sample of 3145 educators divided among 28 categories. In an effort to get as high a response rate as possible, 6919 questionnaires (or 2.2 times the desired sample) were mailed.

By cutoff date, 2309 (33%) were returned. After elimination of questionnaires that were less than half completed and contained non-usable responses, the data on the remaining 2258 questionnaires were keypunched for computer tabulation.

Cross-tabulations of the data resulted in two kinds of information. The tabulation of background data provided the basis for a user group typology and helped to characterize the respondent population. Tabulation of responses on subject areas, uses, document types, intensity and frequency of need, sources of information, and ERIC use contributed to the development of information-need profiles for 15 user groups:

- Preschool/Kindergarten Teachers
- Elementary Teachers
- Secondary Teachers
- Adult Basic Education Teachers
- Postsecondary Teachers
- Reading Specialists
- Vocational Educators
- Special Educators
- Superintendents/School Board Members
- Principals/Assistant Principals
- Counselors/Psychologists
- Librarians
- Consultants/Supervisors/Curriculum Directors
- State Agency Staff
- Researchers

The profiles were used to identify need clusters that could provide some basis for partitioning the ERIC file.

C. USER-GROUP PROFILES

A comparison of the 15 user-group profiles created by the cross-tabulations revealed some similarities that cut across all groups, as well as a number of differences that set the groups apart:

- All groups tended to seek information from as many sources as possible and tended to identify books consistently as a principal source of information for nearly all subjects and uses.

- There was a tendency for most respondents to want more than one document type for any subject or use. However, in this area there are some distinctions between groups in the types of documents desired.

- Only two groups indicated a desire for data per se. These groups were Superintendents/School Board Members and Researchers. The former group was interested in data on Budget and Finance, while the latter wanted data on Testing and Evaluation.

- In general, the expressions of needs seemed to be direct functions of respondent roles. For example, there was virtual consensus (over 90%) among teachers on the need for practical curriculum materials, for classroom use. Researchers agreed on the need for technical reports, for research use.

Of the 15 user-groups, the only group of whom a majority identified ERIC as a principal source of information was Researchers. Their use was primarily for research and consulting. There were respondents in all of the user groups who reported using ERIC as a principal source, but the percentages in these other groups were much lower than those of the Researcher group.

Tabulations of the extent of ERIC use by the entire respondent population showed that twenty-two percent had used ERIC products or services. The most heavily used ERIC products are (in order): Research in Education (RIE), various kinds of bulletins, Current Index to Journals in Education (CIJE), and bibliographies.

D. IMPLICATIONS OF THE STUDY FOR PARTITIONING THE ERIC FILE

1. Potential Benefits of Partitioning the ERIC File

There could be several important benefits from partitioning the ERIC file:

- to identify ERIC as a resource that can help meet the information needs of all segments of the educational community.
- to improve retrieval efficiency, in terms of speed and relevancy.
- to improve the ERIC acquisitions program and to identify needed information analysis products.
- to support the dissemination of selected information, targeted to a particular audience or for a particular use.

Each of these benefits addresses an area of need in the ERIC program that has been identified, to some extent, in previous studies.

2. Alternatives for Partitioning the ERIC File

Potential bases for partitioning the ERIC file exist in currently available elements of the file, including:

- Research in Education (RIE) and Current Index to Journals in Education (CIJE), literature classes that represent current practice in physical partitioning.
- Publication date and monthly update tapes, which represent a continuing time partition of the ERIC file.
- ERIC clearinghouse areas, which already represent a kind of partitioning--particularly in the sectionalizing of RIE.

In addition to the currently available elements, there are several facets of descriptors incorporated into the Thesaurus of ERIC Descriptors that could be elements for partitioning if they were applied consistently as nonsubject descriptors. The two major types of descriptors are level (e.g., elementary) and document type (e.g., curriculum guide). Another potential element in the descriptor system that might provide a strong basis for partitioning is the concept of "classes." These classes would encompass several topics and specific descriptors but, in general, would promote some grouping of documents that could be related to the general interests of different user groups.

The study data were examined for combinations of these kinds of elements to identify potential bases for partitioning, including those elements that might need to be incorporated into a future document descriptor system.

3. Potential Bases for Partitioning the ERIC File

In interpreting the 15 user profiles, it was concluded that the primary needs patterns for each group relate directly to primary roles and that there is no single formula for applying elements (i.e., subject, document type) with equal weight to establish criteria for identifying partitions.

Two major clusters of needs were revealed to be of common interest to all teachers and to several other user groups. These two clusters are (1) Practical Guidance Materials in Classroom Subjects and (2) Practical Guidance Materials in Instructional Methods and Process. For example, the Curriculum Supervisors and Principals appear very similar to the teacher-group profiles (including specialists, such as Reading Specialists and Vocational Educators). But differences appear for Supervisors in their expressed preference for a wider variety of document types than practical guidance materials and, for Principals, in their need both for greater variety and for administratively related materials.

The degree to which a given set of documents can serve groups that are involved, in differing degrees, with the classroom situation is not known from these data, but must be tested empirically in the future.

Seven kinds of general partitions could be identified from the data. These candidate partitions appear, a priori, to have the potential for achieving some of the benefits identified earlier. These seven partitions are:

- Elementary Classroom Subjects
- Secondary Classroom Subjects:
  Communications Skills (e.g., English, Reading, Languages)
- Secondary Classroom Subjects:
  Social Studies/Social Sciences
- Secondary Classroom Subjects:
  Math and Science
- Secondary Classroom Subjects:
  Vocational and Technical
- Instructional Methods/Process
- Educational Administration (Budget & Finance)

These candidate partitions, and others that are discussed in the report, were made on the basis of the following additional considerations:

- that the homogeneity of the profiles disguised some important variables including level, classroom subject, and learning group;

- that the need clusters that did not overlap with the two major clusters were primary candidates for additional partitions for significant user groups;

- that more or fewer partitions could be identified, particularly by matching classes of subjects with document types. However, these alternatives were posed as ones which--particularly if thought of in terms of products--could serve more user groups with the inclusion of all document types. More direct targeting to user groups could be accomplished with sections organized by document type.

The major prerequisites to the establishment of such partitions are:

- that appropriate nonsubject descriptors be developed that meet the specifications for partitioning;

- that the acquisitions and information-analysis-product program provide the input for the partitions;

- that the subject classifications used in the partitions can be applied meaningfully and reliably to individual documents.

This approach to partitioning can perhaps successfully accommodate the complexities in the patterns of needs among educators and provide a flexible basis for creating and maintaining partitions.

E. RECOMMENDATIONS

1. Alternative Actions

The present study points to

- Full partitioning of the ERIC file.
- Selective partitioning of the ERIC file for pilot operations.
- Initiation of a pilot SDI program.

Alternative 1: Operations with a Fully Partitioned ERIC File. This alternative would involve division of the entire ERIC file into sections, largely on the basis of subject matter. Users would be able to purchase individual sections, as well as complete versions of *RIE*, *CIJE*, and ERIC microfiche and tapes.

The full-partitioning approach has serious disadvantages:

- There is presently inadequate information on the relation of individual index terms to possible partitions.
- There does not yet exist an adequate basis for defining all the desirable partitions of the ERIC file.
- ERIC's credibility could be damaged if the targeting reflected in the partitions proved noticeably inaccurate.

Alternative 2: Pilot Operations with a Selectively Partitioned ERIC File. The second alternative would require establishment of 5 to 10 sections of the ERIC file, as part of a pilot program aimed at testing the concepts and mechanics of partitioning.

This alternative has several positive points:

- It would provide immediate visibility to a new kind of ERIC targeting.

- It would provide fairly immediate feedback on the usefulness and adequacy of the partitions.
- It would permit USOE to develop partitioning experience relatively safely, working in selected areas where partitions can be defined with greater assurance.

The selective partitioning approach also has some disadvantages:

- There is insufficient data on which to define the document-tag-to-partition relation.
- The amount of overlap in interests among various educator user groups precludes confident selection of even a few partitions at this time.

Alternative 3: Initiate Pilot SDI Operations. The third alternative is to mount an experimental program of selective dissemination of information, for a limited time, to several hundred educators representative of the educational community. Their interest patterns would be translated into individual information-requirements profiles, and each month they would receive announcements on new literature entering the ERIC system. The matching mechanics would be handled by computer, using the monthly ERIC tapes. The program would be identified as experimental, and participants would agree to provide feedback information that would help USOE assess the adequacy of specific partitions and the general effectiveness of partitioning.

This approach offers many advantages over the two other alternatives.

- It would provide a low-risk means by which ERIC could move toward partition-based operations.
- It would provide a means to determine and test the relation of individual descriptors to possible partitions, before those partitions are placed in operation.

- It would demand much more information on the bases for partitioning than is presently available.
- It would allow USOE to ignore the back file; the pilot SDI program could begin fairly soon after the clearinghouses begin to use agreed-upon new noncontent descriptors recommended by this study.
- It reflects the same kind of concern with improved targeting that the other approaches do and would therefore have desirable visibility to the educational community.
- Because SDI operations are a well developed art, there is minimal technical or financial risk to USOE.
- Because the program would be advertised as a pilot, there would not need to be a commitment to continuation.

Some possible disadvantages to the pilot SDI approach must also be recognized:

- As an alternative to partitioning, it would delay movement into partition-based operations.
- It would introduce a new technology into ERIC operations and would require some startup expense for operations planning for acquiring and tailoring an SDI program, for developing forms to capture user profile information, and the like. It might, even on a pilot basis, imply to some educators a commitment for USOE to continue the service. We regard this as a minimal risk situation.
- Not all user groups can be included at the outset of the study; full-scale individual SDI operations for the entire educational community are probably too expensive and too massive for immediate consideration by USOE.

We do not regard any of these as serious disadvantages. The SDI pilot operation would provide valuable information to support ERIC partitioning objectives and might prove to be sufficiently valuable that it creates considerable user-based demand for its continuation as a permanent service. Such a service, like some current ERIC services, might be provided through the interested participation of the private sector.

2. Recommended Program

A three-part integrated program is recommended that would provide for the development of the required improvements in the descriptive system and for the testing of candidate partitions.

a. Develop and Elaborate Nonsubject Descriptors for ERIC Documents. We recommend that two major kinds of nonsubject descriptors that are currently used in the ERIC system be defined and applied consistently as separately labelled fields. These two kinds of descriptors are: (1) Level (e.g., secondary); and (2) Document Type (e.g., resource lists). Drawing upon the existing descriptors and those used as response choices in various study questionnaires, we recommend the following kinds of steps:

- Secure as exhaustive a list as possible of potential user groups for ERIC;
- Generate the nonsubject descriptors that will identify and help to discriminate between file contents of interest to different groups;
- Enunciate and refine an initial set of indexing instructions and rules for the nonsubject descriptors, which relate to information applications;
- Pilot-test interindexer consistency for the nonsubject descriptors;
- Test the refined subject indexing system at all ERIC clearinghouses;
- Install and run the nonsubject indexing system.

b. Develop Associations Between Descriptors and Candidate Partitions. In order for partitioning efforts to develop, it will be necessary to identify the clusters or sets of descriptors (and identifiers) that are to be associated with any given partition. That identification should be done in such a way as to take full advantage of the knowledge and skill of the ERIC Panel on Educational Terminology, the ERIC clearinghouses, and educational information centers.

The steps involved in this task are:

- Define one or more important candidate partitions, such as Elementary Classroom Subjects;
- Select a team of reviewers to assign terms from the ERIC Thesaurus (plus new noncontent descriptors to candidate partitions;
- Assign descriptors to each of the candidate partitions being studied;
- Carry out on-line testing of descriptors on which there is substantial disagreement among the Reviewers;
- Refine the descriptor-partition relationships on the basis of the on-line test, to provide the material necessary for the pilot SDI operation.

c. Perform Selective Dissemination of Information Experiment. The pilot SDI operations are intended to provide a means by which USOE can determine and test, with a minimum of risk, the relationship of individual descriptors to candidate partitions, before those partitions are placed in operation. The following steps are involved:

- Identify selected user participant group candidates.
- Identify descriptors relevant to the selected candidate participant groups.
- Do indexing consistency study of noncontent descriptors.

- Index the appropriate incoming materials to the ERIC file.
- Design the SDI experiment.
- Evaluate and choose SDI software, and install.
- Establish software system experimental operating protocols.
- Design publicity, sign-up and agreement procedures.
- Run SDI experiment.
- Analyze data and write report.

The three recommended programs can be carried out in serial fashion, in parallel. Operations in serial require more staffing and funding and present a more complicated management task, but there are advantages to be realized in the closer coordination of the tasks and the rapid interchange of results.

III. PROJECT ACTIVITIES

The project involved three main data-gathering activities. These were a review of current ERIC practices, a review of some current ERIC-related studies, and the conduct of a questionnaire survey. The review of current ERIC practices focussed on an examination of clearinghouse efforts in partitioning and document tagging, and the concerns in these areas that were expressed by Clearinghouse personnel. Current ERIC-related studies were reviewed for findings that might have impact on recommendations for file partitions or that clearly supported their need. These two activities provided the project staff with valuable background information and suggested important considerations in the study of file partitions.

The conduct of the questionnaire survey and the analysis of data gathered by the survey comprised the major study activity. It involved a survey of educator information needs in relation to subject area, information use, and document type. The results of the survey formed the basis for user-group profiles. These profiles, in turn, formed the basis for a study of the feasibility of user-related partitions.

A. REVIEW OF CURRENT ERIC CLEARINGHOUSE PRACTICES

As part of the review of current ERIC practices, telephone interviews or site visits were conducted with personnel from each of the clearinghouses to determine present efforts to partition or subset the file and to solicit reactions to or suggestions for partitioning the ERIC file. Discussion covered current practices in identifying nonsubject document characteristics. In summary, the findings were as follows:

- Many of the clearinghouses have divided their coverage into a small number of broad subject areas. These areas may form the bases for products such as bibliographies or newsletters. For example, periodically the Clearinghouse of Rural Education and Small Schools produces annotated bibliographies on each of six main subject areas.

- Many clearinghouses tag documents with a nonsubject or "form" term. However, there is a diversity of methods by which they do this. For example, some indexers feel that the "form" or document-type descriptor should be included in the regular descriptor string. Others feel that such tags would be less confusing if they were in a separate field.

- Clearinghouses using document-type descriptors used them only when the indexer felt they were necessary or appropriate. Thus, in clearinghouses processing primarily research documents, the term "research" was frequently not used because it was taken for granted. Other clearinghouses reported that "research" was the only document-type descriptor used.

- There is no real agreement among clearinghouses on the value of document-type descriptors. One problem noted was that people frequently did not really know what document type they wanted, did not know what term would be used for that document type, or did not want to restrict themselves to one or two document types. On the other hand, many of those queried felt that document-type descriptors, consistently applied, would be very useful.

- There was also a lack of agreement on the value of a time-based division of the file. Clearinghouses performing machine retrieval were generally less concerned with this dimension since the option to retrieve chronologically was already open to them.

- Some clearinghouses tag documents by an additional dimension--educational level, where applicable.

- Generally, current nonsubject descriptors are not always used and, in some cases, they are not used with any degree of regularity. This inconsistency is caused, in part, by the lack of standard guidelines for using these kinds of descriptors. Furthermore, subject and nonsubject terms must vie with one another for a position in the descriptor string. If too many subject-related descriptors are needed, nonsubject-related descriptors may be omitted.

- There was general agreement that some method of subsetting the file, (whether by creating special collections within the main collection or by dividing the total file) would make retrieval and, consequently, dissemination more manageable.

B. REVIEW OF CURRENT ERIC-RELATED STUDIES

Three recently completed studies of the ERIC system were reviewed by the project staff for their possible contributions in considering the need for, and benefits of, partitioning. The data collections in each study were also examined for their usefulness in defining the actual partitions.* The three studies are:

- Evaluation Study of ERIC Products and Services. Bernard M. Fry. Graduate Library School, Indiana University, Bloomington, Indiana. March 1972.

- Evaluation Study of NCEC Information Analysis Products: Final Report. Judith Wanger. System Development Corporation, Santa Monica, California. June 1972.

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*A fourth study was nearing completion at the time of this writing. Conducted by Dr. William J. Paisley at the Stanford University Institute for Communication Research, it should be particularly valuable in supplementing the user profiles developed here.

- Alternative Models for the ERIC Clearinghouse Network. P.W. Greenwood and D.M. Weiler. The RAND Corporation, Santa Monica, California. January 1972.

Each of these studies is summarized here, with emphasis on those findings and recommendations that bear directly on this study.

1. Evaluation Study of ERIC Products and Services

The purpose of Dr. Fry's study was to examine the use made of ERIC products and services by members of the educational community and, in this context, to evaluate the extent to which the ERIC system is achieving its objectives. Data obtained from several survey questionnaires to users of ERIC and subscribers to CIJE and RIE, on-site interviews, ERIC clearinghouse and EDRS records, and opinions of experts focussed on: (1) the use of ERIC products and services; (2) purpose of use; (3) characteristics of users and non-users; (4) extent of awareness of the ERIC program among educators; (5) reasons for non-use; (6) suggestions for improvements; and (7) the overall impact of ERIC in meeting information needs of educators and researchers.

Findings here that appear to be of some importance to the present study are:

Document acquisitions: Many ERIC users express the need for a wider range of resource materials than unpublished research documents.

Thesaurus of ERIC descriptors:

- Only one out of eight respondents indicates he approaches RIE and CIJE through the Thesaurus.

- Suggested changes or improvements include:
  -- gearing terms to practitioners or researchers, not to both.

-- identifying documents by type.
-- descreasing the number of descriptors for categories and increasing the number for topics.

Research in Education (RIE):

- Subscriptions to RIE leveled off after reaching a peak in 1968. Individual subscriptions to RIE have declined, both in terms of absolute numbers and in percentages (from 13 percent to 4 percent).

- Reasons given for using RIE are:
  - -- by administrators: keeping abreast in a field, research projects, program improvement, curriculum development.
  - -- by teachers: research projects, assignments and term papers, reports, keeping abreast in a field.
  - -- by researchers: research projects, curriculum development, keeping abreast in a field.
  - -- Two-thirds of users consult RIE primarily to locate a document which contains specific information. Less than one user in five reads or scans each issue solely for current awareness.

- Suggested changes or improvements include:
  - -- coding level (age, elementary, high school, etc.)
  - -- coding type (speech, survey, report, etc.)
  - -- indexing consistency as between general or specific

Current Index to Journals in Education (CIJE)

- Of particular interest is the virtual absence of individual subscriptions.

- Highest frequency of usage among individuals was reported by librarians and graduate students.

- Two of every three users of CIJE search the index for specific information. One out of seven reads or scans for current awareness.

Information-Analysis Products: A substantial number of users of the ERIC system do not use the information-analysis products to any great extent. The relative lack of use of products was attributed to widespread lack of awareness of the existence of these summary publications.

Activities recommended for advancing ERIC's usefulness include:

- probing further into the reason for non-use of ERIC products and services, as a means for testing more conclusively some of the reasons proposed in the study, e.g., lack of targeted materials, research vs. practitioner orientation, etc.

- reexamining the centralized vs. decentralized concept of the ERIC system, particularly with regard to indexing and abstracting operations.

- examining the document sales and distribution procedures, now handled through at least four different outlets and considering the possibility of SDI systems both directly to individual users and through state and local agencies.

- studying the policies and procedures underlying the growth of the ERIC collection in relation to the most effective use of this knowledge, including consideration of the option for developing a range of document-information delivery systems targeted to particular user communities.

- developing a systematic program for informing the educational community--and when appropriate, on a user-subject basis--providing direct, targeted distribution of information-analysis products.

- strengthening dissemination of products and services by undertaking a cost-benefit-effectiveness study, including the study of such alternatives as SDI systems, separate sectional (partitioned) publications, distribution of index journals to specific target populations, and expansion of machine searching services.

The author emphasizes that these recommendations were made in full recognition of the diversity of the educational community's information requirements.

2. Evaluation Study of NCEC Information Analysis Products: Final Report

The purpose of the Wanger study was to assist the U.S. Office of Education in developing policy-related guidelines for the development and dissemination of NCEC information-analysis products by evaluating the quality and utility of these products.

The study was concerned with three kinds of information-analysis products:

- Reviews of research and practice and state-of-the-art papers from ERIC clearinghouses

- Practical Guidance Papers, including PREP (Putting Research into Educational Practice) reports and reports from ERIC clearinghouses

- Bibliographies, including those from EMC (Educational Materials Center) and ERIC clearinghouses

As stipulated by USOE, the project was to focus only on the products and not on the means by which they were conceived and prepared. Within this scope, the study had two major goals:

- To obtain information from a cross-section of educators regarding their level of familiarity with NCEC information analysis products and their judgments of the quality and utility of those products.
- To assess the survey methodology in terms of its potential applicability to continuing evaluations of NCEC products.

It was reported that NCEC products are on the whole favorably received by the survey respondent population. Important for the present study is the conclusion that the products are underused. This is in part because of lack of awareness of the products' existence and in part because of a belief that the products are not readily accessible. It was recommended that an improved alerting or announcement system--perhaps even a selective dissemination of information (SDI) system--should be developed.

Some of the product-use data reported are also of importance to this study:

> In general, readers indicate that Reviews and Practical Guidance Papers are used primarily "to obtain overviews of topics" and "to update knowledge about already known subjects." One of the least frequent uses of these products was "to obtain new knowledge."
>
> However, use varies to some extent with the educator's role and setting. For example, in contrast with the overall pattern of use, Elementary Teachers report high usage of Reviews both to update knowledge and to obtain new knowledge.

The author stated that there were no patterns of differences among the ratings of the product types; however, the types of expectations reflected in evaluators' comments and the differences in patterns of use among user groups suggested that information-analysis products need to be redefined, for example, in terms of families of Reviews for different uses and different audiences.

In conjunction with this observation on the diversity of expectations among the evaluators, the author urged that each product contain a clear statement of its purpose, limitations, and intended audiences. And, to the extent possible, this information should be incorporated into the descriptor system.

In addition, some of the interest data by user group--comparable to the categories of user groups introduced in the present study--were reviewed to supplement the subject interest data obtained in the present study. Subject areas used in the Product Evaluation Study were basically those of the current clearinghouse structure and are useful, therefore, in discussing clearinghouse areas as candidate partitions.

3. Alternative Models for the ERIC Clearinghouse Network

The purpose of this study was to provide NCEC with exemplary alternative models for the ERIC clearinghouse network that could render ERIC more responsive to the needs of the education community. The RAND study team surveyed the scope and sources of education literature, analyzed the utility to the user of existing and planned non-ERIC information resources, and studied the operations of the current ERIC system--through interviews with ERIC system personnel.

In creating a functional framework within which several alternative models could be developed, the RAND staff characterized current ERIC practices and reported on the views that had been expressed during the course of their study. Suggestions that were made or inferred by the staff included the following (taken verbatim from the report):

- Indexing. Users complain about the profusion of descriptors that may have only tenuous connections with a particular document. The result is that ERIC searches generally retrieve an extremely large number of documents, but they are difficult to screen for relevance, even using the abstracts. Classification of documents by type or intended audience might greatly reduce this problem. (Underscore added.)

- Access. Access to the literature for most users might be greatly increased if some small subset of the entire ERIC collection were available for loan at a reasonable number of locations.

- Reviews. Unfortunately, most users are unaware of this review function and are usually unable to distinguish such papers from all of the others in the ERIC data base. [There is] a very low rate of practitioner-oriented output at many of the clearinghouses. Some directors would be the first to admit they should be doing more, but claim they cannot find out who their potential audience is or what it really wants.

Prior to introducing models involving substantial changes in the clearinghouse network, a variety of changes in the current system were suggested that might improve its responsiveness. These changes included:

- More aggressive pursuit of practice literature.

- Greater differentiation of the data base. ...precision of information retrieval [could be improved] by differentiating the ERIC data base along lines that reflect the interests, abilities, and backgrounds of various ERIC user groups. Differentiations by type of document (e.g., report of research, evaluation of research, description of program, exposition of ideas), by intended audience (researcher, teacher, administrator, information specialist), by historical or current value, or by educational discipline (English, Mathematics, Art) could all minimize the present difficulty of literature searches.

Some of the alternatives proposed were organizational and others represented substantive content changes. Some of these alternatives represent groupings of educational subject areas that are useful in thinking about partitions along the subject dimension.

One such model is the Consolidated Model, which reduces the number of clearinghouses to eight, including:

CONSOLIDATED CHs	PRESENT CHs
Communication Skills	English, Reading, Modern Languages
Arts & Sciences	Science & Math, Social Science
Career Education	Adult Ed, Vocational Ed
Special Education	Urban Disadvantaged, Early Childhood, Rural Education, Exceptional Children
Education & Information Technologies	Library & Information Sciences, Media & Technology
Higher Education	Higher Ed, Junior Colleges, Teacher Ed
Management, Evaluation, & Guidance	Management, Test & Evaluation, Counseling & Guidance
New Concepts	--------

4. A Summary of Some Key Issues

In the review of present ERIC clearinghouse practices and the three studies summarized above can be found a notable degree of consensus on a number of issues and considerations regarding possible future directions for design of the ERIC system:

- Desirability of identifying minimum-overlap subsets (partitions) of ERIC materials explicitly keyed to homogeneous user groups: Present practices in some clearinghouses use broad subject areas to perform the "initial focussing" function in searching, i.e., aggregating most of the relevant material for a range of similar information needs into one "partition," and eliminating most of the material completely non-relevant to that range of needs. Similarly, use of tags for document form, educational level, and time-division of materials provide the bases for implementing such subsetting or partitioning desiderata. Fry's study noted the importance of the distinction between applied or practitioner-oriented materials and research-oriented materials, this distinction providing another possible basis for file partitioning. His recommendation to decrease the number of categories and increase the number of topical headings moves toward revision of the thesaurus from an open or pure coordinate approach to an approach favoring a hierarchically structured controlled vocabulary. If the generic levels of description are chosen carefully, they can ease the task of sorting materials into user-group oriented partitions. Fry's finding that current awareness products are most frequently used to satisfy what amount to demand search needs can be used to support the argument for file partitioning to improve search accuracy and efficiency, as can his recommendations for targeted distributions of various information analysis products.

  Similarly, Wanger's finding that reviews are used by elementary teachers for continuing education and maintenance needs suggests the possibility of attempting to develop a file partition addressed specifically to these needs, and her more general recommendation that products be required to be described in terms of their intended uses, goals, limitations and audiences suggests that such descriptors could be incorporated into indexing practices and then used as bases for file partitioning.

The RAND study also suggests characterizing the intended audience for each piece of ERIC material, and notes that the practitioner/researcher distinction is an important one that is not considered in current ERIC information description practices. They mention a number of tagging categories that could prove very useful for file partitioning: intended audience (such as research, administration, teacher, information specialist), document type, discipline area (mathematics, English), and historical and current value.

- Effects of broadened acquisition policy: If a concerted effort is made to increase the ERIC coverage of nonresearch materials, the need will also increase to differentiate clearly the kinds of documents to be contained in partitions of the file. The present under-use of information analysis products discussed in detail in the Wanger study, suggests the additional possibility that much relevant material is currently being "lost" in the file.

- Recommendations for indexing practices: The creation of user-related partitions would require the development of detailed indexing guidelines so that indexers could apply the different kinds of descriptors consistently. (Candidate elements for the unit record of each document were mentioned previously.)

- File partitioning and dissemination practices: If, as suggested by Wanger, SDI programs are a desirable way to alert users to ERIC--to both its regular acquisitions and its information-analysis products--then partitions might be useful as a means for supporting such SDI activities, including the dissemination of mini-RIEs targeted to different user groups, or mini-PIEs (Practices in Education) targeted to different user groups.

C. CONDUCT OF QUESTIONNAIRE SURVEY

1. Survey Design

The questionnaire survey was designed to determine the information needs of educators relative to subject areas, information use, and document type. It was also intended to survey awareness and/or use of ERIC products and services and to gather suggestions from both users and nonusers about the most useful types of products and services that ERIC might provide.

a. The Questionnaire

The questions were designed to:

- Collect demographic data on role, function, experience, and other data that describe the respondents. (Questions 1-10.)
- Collect data about respondents' interests in terms of subject areas. (Questions 11 and 12.)
- Collect data about type of information needed, the sources of that information, and intensity and frequency of need related to subjects for which there is high interest. (Question 13.)
- Collect data about respondents' uses of information. (Questions 14 and 15.)
- Collect data about kinds of information needed, the intensity and frequency of need for that information, and the sources or document types. (Question 16.)

- Determine relation of information uses to subject areas for uses and subjects of importance to respondents; and determine adequacy of information received by respondents to date. (Questions 17 and 18.)

- Determine use or nonuse of ERIC products and services. (Questions 19 and 20.)

- Solicit suggestions from both users and nonusers for products and services that would help in their work.

The questionnaire is somewhat complicated in design. To aid in completion of the questionnaire, therefore, a sample of the most intricate section was included in each mailing along with a cover letter explaining the study and a return envelope. Copies of all of the items in the mailing and a copy of the cover letter for the follow-up mailing are included as Appendix B.

Individuals in the Office of Education and on the Project Advisory Board reviewed the questionnaire and provided input for revision.

Sample Selection

The sample contained 28 types of educators. These fell into two broad categories--those who were associated with school districts (21 categories), and those who were not (7 categories). The participants in the sample were predominantly school teachers, a reflection of the fact that the largest proportion of educators consists of teachers. The 28 categories were based on a review of relevant literature and discussions with the project monitor and project consultants and were selected to reflect the spectrum of educators. A table of the categories and the number in each category are given in Appendix C. To allow an adequate number of each type of respondent to be included in the sample, and to provide for appropriate representation of respondent types, a sample size of at least 3145 was required. The minimum number considered adequate per participant type is 30. Below that, the confidence bands deteriorate rapidly.

Although the total sample was intended to be a proportional one, the proportionality was adjusted to accommodate some categories with very small representation. With a minimum number of 30 in each category, strict proportionality would have required some categories to have excessively large samples (e.g., about 19,000 elementary classroom teachers). Since this did not seem warranted, it was decided to maintain the minimum sample size of 3145, which we expected to achieve by mailing the questionnaire to 6919 educators or 2.2 times the desired sample.

School districts made up the primary sampling units of the study. The districts were stratified by size and 20 districts were selected. This was done to ensure a nationwide distribution of both large and small districts. There was no attempt to obtain a representative sample of school districts, since the concern was with information needs as a function of participant characteristics.

The districts chosen for the sample were selected randomly, within the constraints of size and region, from the Education Directory, 1970-71: Public School Systems. (A more detailed discussion of district selection is contained in Appendix C.)

Participant Selection

To promote responses, the questionnaires were sent to individual educators by name. Since the questionnaires were mailed very near the end of the school year, they were sent to home addresses wherever possible. The procedure for contacting individuals within the school districts was as follows.

Contact was first made with the state education agencies to explain the study and the purpose of the questionnaire and to determine whether state policy permitted surveys of the state's educators. The initial phone contact was followed by a letter to the chief state school officer with copies to appropriate personnel in the state agency. The letter served to confirm the permission of the state office to conduct the survey and included a copy of the questionnaire along with a more detailed explanation of the study. The state agency personnel contacted are listed in Appendix C.

With approval of the state agency, initial phone contact was made with the chief administrative officer in each of the school districts to be sampled. The phone contact was used to explain the study and the survey, to alert the superintendents to the more detailed explanatory letter which would follow, and to assess the willingness to cooperate. The school district officers were asked to supply the project team with lists of district personnel, including positions and addresses. In three cases, district policy did not allow the release of personnel lists. Where this happened, the district was requested to perform the sampling and supply only the names of those selected as respondents. In two instances, districts selected originally were unwilling to participate in the survey in any capacity. Replacements of the same size were found in the same states.

Following the phone calls, detailed explanatory letters were sent to the school districts accompanied by an overview of the project.

With oversampling, an average of 200 respondents were selected in each of the school districts. The respondents were chosen at random by type of function.

The six categories of respondents unaffiliated with school districts were contacted in the following manner:

Private nurseries and preschools -- Complete listings of such schools were not available. Therefore, schools were selected randomly from telephone directories of major cities. Since most such schools are fairly small, over 300 schools were selected to ensure the sample requirement of 360 participants would be reached. Each school was sent three questionnaire packages and a letter requesting the head of the school to distribute them to members of the staff.

Junior College Teachers -- Fifteen junior colleges were selected at random from published lists of such institutions. The participants were selected randomly from the catalogs of the junior colleges selected.

Adult Education Teachers -- Sixty-six teachers specializing in adult education were selected from seven schools or centers. These schools were selected from listings in districts already contacted for regular sampling.

Private Vocational and Technical Teachers -- The American Vocational Association in Washington, D. C., provided lists from which 484 participants were chosen from approximately 50,000 active members.

Institutional/University Researchers -- 132 researchers were selected from a list of the members of the American Educational Research Association who designated research as their primary interest.

State Agency Personnel -- The questionnaire was sent to 150 people at various state education agencies. USOE suggested a minimum number of categories of participants and selections were made from the Education Directory--State Governments 1971-73.

2. Questionnaire Mailings and Returns

Once the participants were selected, each was assigned a number. Since the identities of the private preschool and nursery teachers were not known, the numbers were assigned to their schools. These numbers, which were stamped on the questionnaires, served only to eliminate respondents from the follow-up mailing list. Persons who had not returned the questionnaires after three weeks were sent a second package with a follow-up letter replacing the original cover letter. (The follow-up letter is included in Appendix B.)

Questionnaires were mailed to 6919 individuals and schools; before the cutoff date, 2309 (33%) were returned.

A preliminary check was made of the questionnaires returned. Those that were less than half completed and those containing only nonsensical or confusing responses were set aside. Data on the remaining 2258 questionnaires were keypunched for computer tabulation.

3. Data Analysis

a. Tabulation of Data

The mechanical tabulation of the questionnaire data through question 10 provided the background information descriptive of the respondent population, and also served as a basis for the formation of a typology of user groups.

The background information items tabulated were:

- Primary educational role
- Level (work setting)
- Teaching area (subject)
- Special education responsibilities

- Years of experience in current educational roles
- Level of education attained.

Also tabulated were responses relating to:

- Subject areas (interest)
- Applications or uses of information .

These data had a direct impact on the development of user-group profiles. The analysis of profile elements was done in two steps. First, all the potential subject interests and uses were tabulated for each user group. The results of these tabulations were used to determine the major subject interests and uses for each of the user groups.

The determination of major subjects and uses were made in the following manner. First, tables were created displaying the number of times each choice was ranked one, two, three, four, or five. A weighted total was then taken for each choice.* The weighted totals helped to avoid the distortion that might have resulted from taking a simple total of the number of times an item was ranked one of the top five. Once the major subjects and uses for each group were determined, further tabulations were based on them.

In addition to the items that contributed directly to the user-group profiles, the following items were analyzed for ancillary profile elements (that is, elements that either rounded out the profiles or helped in their interpretation):

- Document types
- Intensity of information need
- Frequency of need

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*For the subject choices, this was done by giving each rank-one choice a weight of five, each rank-two choice a weight of four, and so on. The same was done for use choices, with a rank-one choice receiving a weight of three, and so on.

- Current sources of information
- Extent of ERIC use.

These items were arrayed against the major subject interests and uses for each user group. The resulting profiles are presented in Chapter IV.

A summary table was created showing the most frequently occurring subject/use/document-type combinations for the entire respondent population. Another table was created to show the proportions by which the respective user groups indicated their preferences for the subject/use/document-type combinations. The distortions that resulted from connecting the three elements artificially* made these tables inconclusive and they were abandoned.

b. Description of Respondent Population

It has been shown that the tabulation of background information from the questionnaire returns served two purposes. First, it provided a basis for a user group typology for which profiles could be created. Second, it gave an indication of the types of educators that responded to the questionnaire. This, in turn, showed to what extent returns correlated with the sample groups of educators.

Creation of a user group typology. Through the tabulation of questionnaire responses to items on respondent background, a set of user groups was identified that corresponded to the user groups in the survey sample. The groups that resulted from combinations of role, level, subject, and special education responsibilities were then considered in terms of group size. Since the statistically standard number required for stable percentaging is 30, alternative ways were considered of dealing with those groups having fewer than 30 respondents. The alternatives were to: (1) combine the smaller group with a larger one similar in role or function, (2) retain the small group as a separate entity (if the number is at least 10) and keep the size in mind when considering the data; or (3) eliminate the group from further consideration. Thus, guidance counselors were combined with psychologists, school board members were combined with superintendents, and student teachers and graduate students were excluded.

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*The combinations were artificial in that it was possible only to represent all occurrences of the three elements together, whether or not the respondent had related them. Since the respondent had the opportunity to make multiple responses, the three elements could easily appear together for one respondent without being related to one another.

Educators working in special education were not sampled as a group but were considered part of the random sampling of other groups. However, in response to a special education item, a sufficiently large number of questionnaire respondents indicated their work to be in one or more fields of special education so that they constitute a separate user group in the study.

Background information. The proportions of returns from the educator groups, when compared with the proportions of the survey sample, gave an indication of the degree to which the two proportions match. Table III-1 shows this comparison.

The most significant difference shown in this table is in the Preschool/Kindergarten group. This difference is exaggerated by the fact that the 22.8% represents the combination of 11.4% public and 11.4% private teachers. Because of difficulties in locating private preschool/kindergarten teachers, this group was not sampled individually, but rather by school. This method of contact made follow-up extremely difficult. Furthermore, since there was no district to work through, as with public schools, the influence of higher-level approval was missing. All these factors no doubt contributed to a low response from private preschool personnel.

TABLE III-1

TYPOLOGY OF USER GROUPS SHOWING RELATION OF SAMPLES TO RESPONDENT RETURNS

EDUCATOR TYPE	% OF SAMPLE	% OF RETURNS
Preschool/Kindergarten	22.8	6.6
Elementary Classroom Teachers	22.9	24.8
Secondary Teachers	22.5	24.6
Adult Basic Education Teachers	1.0	1.4
Postsecondary Teachers	1.8	3.8
Reading Specialists	1.0	2.8
Vocational Educators	13.2	7.0
Special Educators	--[a]	3.7
Principals	2.0	4.3
Superintendents/School Board	2.0	1.6
Counselors/Psychologists	1.1	2.3
Librarians	1.0	1.7
Consultants/Supervisors/Curriculum Directors	2.0	3.1
State Agency Staff	4.8	5.3
University/Institutional Researchers	2.0	2.1
Others	--	4.6

[a] This group was included in the random sample of other groups.

In all of the cases, the proportions are useful primarily in indicating the types of groups that responded heavily or lightly. However, since the groups were considered separately from each other for the majority of the study, their relative proportions are not important to the study conclusions.

The Digest of Educational Statistics, 1970 provides background information on elementary and secondary teachers, which may be compared with that of survey respondents from these two groups. The Digest gives the average years of experience for elementary and secondary teachers as 13.4 and 10.0 respectively. The average years of experience for the two groups of respondents were 12.2 and 10.6 respectively. Table III-2 shows the highest levels of education attained by elementary and secondary teachers (as given in the Digest) as compared with the highest levels of education attained by questionnaire respondents in these two groups.

TABLE III-2

HIGHEST LEVELS OF EDUCATION ATTAINED
BY ELEMENTARY AND SECONDARY TEACHERS

	Elementary		Secondary	
Levels	Digest %	Respondents %	Digest %	Respondents %
No 4 yr. degree	12.9	1.0	0.6	-
B.A. or B.S.	71.4	72.0	67.7	57.0
M.A. or M.S.	15.7	26.0	31.5	41.0
Doctorate	--	--	0.3	1.0
Other	--	1.0	--	1.0

IV. USER-GROUP PROFILES

A. PROFILES

User-group profiles were created for the 15 user groups in the study through cross-tabulation of each group's major subject areas and uses and their questionnaire responses relative to document type, intensity of need, sources of information, and frequency of need. The complete, computer-generated cross-tabulations are included in Appendix D. The individual profiles are shown Tables IV-1 through IV-15.

To create compact profiles that would be usable for analysis, the data were reduced in the following manner. For each user group, only the subjects and uses that were of interest to a substantial majority of that group (i.e., 75% or higher) were displayed. For these subjects and uses, only those items receiving a majority (i.e., 50% or higher) were displayed. The exception to this is the frequency of need, where the entire range of percentages is shown. The intensity of need is not shown, since the intensity for these highly ranked subjects and uses was always moderate or very high, as might be expected.

The subject areas for which respondents were able to indicate preference are listed below.

- ADMINISTRATIVE AGENCIES
  (e.g., School Boards, District Offices)
- BUDGET AND FINANCE
  (e.g., Financial Policy, Salaries)
- BUSINESS AND VOCATIONAL EDUCATION
  (e.g., Agricultural Education, Industrial Arts)
- CLASSROOM SUBJECTS
  (e.g., Mathematics, Physical Education)
- COMMUNITY/PUBLIC INTERACTION
  (e.g., Community Programs, Parent Participation)

- GOVERNMENT PROGRAMS AND EDUCATION LEGISLATION
  (e.g., Head Start, State Aid)
- INDIVIDUAL GROWTH AND DEVELOPMENT
  (e.g., Intelligence, Learning Processes)
- INFORMATION SCIENCES
  (e.g., Information Centers, Information Processing)
- INSTRUCTIONAL METHODS
  (e.g., Open Classrooms, Programmed Instruction)
- LIBRARIES AND LIBRARY OPERATIONS
  (e.g., Library Services, Collections)
- MANAGEMENT
  (e.g., Systems Analysis, Program Planning)
- PERSONNEL POLICY AND OPERATIONS
  (e.g., Paraprofessionals, Teachers)
- READING
  (e.g., Reading Readiness, Remedial Reading)
- RURAL/URBAN EDUCATION
  (e.g., Small Schools, Inner City Schools)
- SCHOOL FACILITIES AND OPERATIONS
  (e.g., Attendance, Equipment)
- STUDENT DEMOGRAPHY
  (e.g., Population Trends, Cultural Backgrounds)
- SUPPORT SERVICES
  (e.g., Counseling, Health Services)
- TEACHER EDUCATION
  (e.g., Student Teaching, Inservice Education)
- TESTING AND EVALUATION
  (e.g., Aptitude Tests, Teacher Evaluation)

The following were the choices available for uses of information.

- Preparing or planning classroom materials or curricula, improving teacher methods, evaluating students, or preparing other materials related to teaching

- Performing administrative functions, including the operation of physical facilities, the management of resources, budgeting and accounting, and developing policy

- Maintaining current awareness and proficiency or acquiring new knowledge, including additional training in education

- Providing for or performing preservice or inservice teacher training

- Providing nonteaching services for students, including counseling guidance, health, and library services

- Performing original research, including the preparation of dissertations and reports on such research

- Preparing articles, reports, and speeches

- Developing educational products, such as textbooks, films, lab kits, and manuals

- Functioning as an information resource and consultant

The profiles represent the information needs of the survey respondents as expressed in their preferences for document type and sources and the frequency of need. There were eight document types listed from which respondents could check all applicable choices. These document types were identified in the questionnaire as:

- References or summaries of documents, including bibliographies and abstracts

- Practical curriculum materials (including guides and manuals that give directions on how to do something)
- Technical reports (including conference reports and dissertations) dealing with the methodology and findings of research investigations
- Theoretical papers (including journal articles and dissertations) dealing with a conceptualization or philosophy
- Studies of actual cases that give concrete examples in support of educational principles
- Reviews or syntheses of material or nontechnical versions of technical reports
- List of resources, including people, facilities, and publishers
- Raw or distilled data, such as statistical and administrative data

The following is the complete list from which respondents indicated their current sources of information, again checking all that applied.

- Books
- Colleagues or Supervisors
- Conferences, Symposia, Workshops
- Educational Information Centers
- ERIC
- Journal Articles
- Local Curriculum Materials

- Newsletters, Bulletins, Announcements
- Technical Reports

Finally, the profiles show the choices for frequency of need made from the following time periods (with only one choice per subject or use permitted):

- Daily
- Weekly
- Monthly
- Quarterly
- Less often

The profiles should be read in the following manner. The subjects chosen by at least 75% of the group in question are shown on the top left of each table from left to right in order of preference. The uses are shown on the top right in the same way. Down the center are listed the document types and sources chosen by this group and the time periods for frequency of need.

In the columns under subjects and uses, percentages appear for each item chosen by at least 50% of the respondents in the group who chose that subject or use. For example, in the profile for Preschool/Kindergarten Teachers (Table IV-1), 50% of the preschool/kindergarten teachers who indicated Growth and Development as a major interest wanted references on this subject. However, since fewer than 50% of those who indicated a preference for these subjects wanted references on them, no percentages appear for this document type under Reading or Instructional Method. The uses are read in the same way. Thus, for those preschool/kindergarten teachers who indicated that they use information for classroom functions, 90% need curriculum materials for this purpose.

TABLE IV-1

USER-GROUP PROFILE--PRESCHOOL/KINDERGARTEN TEACHERS

SUBJECTS				USES	
Growth/ Dev.	Reading	Inst. Meth.		Classroom Use	Current Awareness
			Document Types		
50%			References		58%
	88%	71%	Curriculum Materials	90%	64
55		51	Technical Reports		50
50			Theoretical Papers		
63	57	71	Case Studies	57	51
		53	Resource Lists	57	53
			Current Sources		
82	72	70	Books	80	72
	51	53	Colleagues	70	52
57	67	63	Conferences	73	74
54	54	64	Journals		66
	63		Local Materials	65	
			Frequency of Need		
13	21	7	Daily	33	11
11	20	12	Weekly	26	16
25	26	30	Monthly	19	37
29	17	26	Quarterly	10	19
17	9	19	Less Often	4	10

TABLE IV-2

USER-GROUP PROFILE--ELEMENTARY TEACHERS

SUBJECTS					USES	
Class Subj.	Inst. Meth.	Reading	Growth/ Dev.		Classroom Use	Current Awareness
				Document Types		
52%	51%		50%	References	52%	59%
94	79	92%		Curriculum Materials	93	65
	71	52	52	Case Studies	62	56
54	55	55		Resource Lists	67	56
				Current Sources		
86	73	86	73	Books	89	67
61	60	63		Colleagues	70	51
64	66	66		Conferences	61	70
54	61	57	52	Journals	51	64
66		58		Local Materials	65	
				Newsletters		51
				Frequency of Need		
25	10	28	9	Daily	33	9
34	15	23	12	Weekly	38	17
21	33	26	26	Monthly	17	39
10	18	14	23	Quarterly	6	20
5	18	6	24	Less Often	3	10

TABLE IV-3

USER-GROUP PROFILE--SECONDARY TEACHERS

SUBJECTS			USES	
Class. Subj.	Inst. Meth.		Class. Use	Current Awareness
		Document Types		
57 %	56 %	References	58 %	58 %
90	78	Curriculum Materials	90	61
	64	Case Studies	55	
59	55	Resource Lists	62	54
		Current Sources		
90	67	Books	88	63
55	53	Colleagues	61	
56	55	Conferences	56	60
58	56	Journals	58	63
		Frequency of Need		
24	12	Daily	35	12
33	17	Weekly	32	17
19	30	Monthly	19	34
12	20	Quarterly	6	18
6	16	Less Often	4	14

TABLE IV-4

USER-GROUP PROFILE--ADULT BASIC EDUCATION TEACHERS

SUBJECTS		USES	
Inst. Meth.		Class. Use	Current Awareness
	Document Types		
54%	References	55%	59%
67	Curriculum Materials	86	59
	Technical Reports		55
50	Case Studies	55	55
58	Resource Lists	52	59
	Current Sources		
54	Books	76	
54	Colleagues		
54	Conferences		62
	Journals	59	62
	Newsletters	59	
	Frequency of Need		
13	Daily	31	14
13	Weekly	31	28
46	Monthly	17	24
21	Quarterly	14	21
4	Less Often	3	3

TABLE IV-5

USER-GROUP PROFILE--POSTSECONDARY TEACHERS

SUBJECTS		USES
Inst. Meth.		Class. Use
	Document Types	
65%	References	68%
79	Curric. Materials	82
60	Technical Reports	60
52	Theoretical Papers	55
65	Case Studies	59
57	Resource Lists	60
	Current Sources	
75	Books	93
63	Conferences	62
73	Journals	81
	Frequency of Need	
13	Daily	29
11	Weekly	37
38	Monthly	22
13	Quarterly	7
17	Less Often	5

TABLE IV-6

USER-GROUP PROFILE--READING SPECIALISTS

SUBJECTS					USES	
Reading	Inst. Meth.	Class. Subject	Growth/Dev.		Class. Use	Current Awareness
				Document Types		
92%	64%	93%		Curric. Materials	90%	59%
51				Technical Reports		
56	66		55%	Case Studies	52	
56				Resource Lists	57	
				Current Sources		
86	72	74	68	Books	90	65
63	51	50		Colleagues	69	54
75	60	59		Conferences	54	69
63	53		52	Journals	51	61
66		63		Local Materials	72	
				Newsletters		50
				Frequency of Need		
37	4	30	9	Daily	33	7
25	15	30	11	Weekly	38	15
20	36	15	18	Monthly	15	43
8	21	13	20	Quarterly	8	24
7	21	7	39	Less Often	3	9

TABLE IV-7

USER-GROUP PROFILE--VOCATIONAL EDUCATORS

SUBJECTS			USES	
Bus/ Voc. Ed.	Inst. Mech.		Class. Use	Current Awareness
		Document Types		
53%		References	57%	50%
85	78%	Curric. Materials	88	63
55		Technical Reports		
	54	Case Studies	61	50
70	54	Resource Lists	63	59
		Current Sources		
79	56	Books	89	56
55		Colleagues	64	53
68	59	Conferences	65	67
68	54	Journals	62	57
		Local Materials	52	
55		Newsletters	52	54
		Frequency of Need		
28	14	Daily	40	14
30	23	Weekly	30	26
22	24	Monthly	15	32
10	17	Quarterly	9	15
9	16	Less Often	3	8

TABLE IV-8

USER-GROUP PROFILE--SPECIAL EDUCATORS

SUBJECTS				USES	
Inst. Meth.	Growth/Dev.	Class. Subject		Class. Use	Current Awareness
			Document Types		
58%			References	54%	66%
80		95%	Curric. Materials	91	56
56			Technical Reports		
	52%		Theoretical Papers		
71	66		Case Studies	64	50
52		52	Resource Lists	69	60
			Current Sources		
74	75	82	Books	85	57
62			Colleagues	65	
59		54	Conferences	60	66
64	53	59	Journals	51	66
		63	Local Materials	66	
			Frequency of Need		
12	13	29	Daily	29	7
15	13	29	Weekly	38	7
35	17	23	Monthly	14	47
15	27	5	Quarterly	5	19
17	23	7	Less Often	7	13

TABLE IV-9

USER-GROUP PROFILE--SUPERINTENDENTS/SCHOOL BOARD MEMBERS

SUBJECTS				USES	
Admin. Agency	Finance	Community		Admin. Functions	Current Awareness
			Document Types		
	50%		References	59%	70%
			Technical Reports	55	
			Theoretical Papers		50
			Case Studies	62	60
52%		57%	Resource Lists		50
	58		Data		
			Current Sources		
59			Books	52	65
59	58		Colleagues	72	60
63	58	61	Conferences	76	95
70	62	65	Journals	76	70
70	50	57	Newsletters	72	55
			Frequency of Need		
11	12	13	Daily	31	10
30	12	13	Weekly	41	10
37	50	39	Monthly	7	65
19	15	22	Quarterly	14	5
4	12	9	Less Often	0	5

TABLE IV-10

USER-GROUP PROFILE--PRINCIPALS/ASSISTANT PRINCIPALS

SUBJECTS		USES		
Inst. Meth.		Admin. Functions	Class. Use	Current Awareness
	Document Types			
66%	References	51%	65%	68%
73	Curric. Materials	57	83	63
53	Technical Reports			61
77	Case Studies	70	82	70
51	Resource Lists	51	68	66
	Current Sources			
76	Books	51	78	68
64	Colleagues	70	72	70
70	Conferences	67	68	68
72	Journals	63	73	71
53	Newsletters	59	63	66
	Frequency of Need			
16	Daily	27	15	16
16	Weekly	19	15	18
34	Monthly	23	42	38
16	Quarterly	19	17	16
15	Less Often	8	10	9

TABLE IV-11

USER-GROUP PROFILE--COUNSELORS/PSYCHOLOGISTS

SUBJECTS				USES
Services	Growth/Dev.	Test/Eval.		Student Services
			Document Types	
		52%	References	50%
	63%	55	Technical Reports	
55%	54		Theoretical Papers	57
70	57		Case Studies	64
60			Resource Lists	57
			Current Sources	
68	72	60	Books	74
57			Colleagues	67
68		50	Conferences	69
74	67	71	Journals	81
60			Newsletters	62
			Frequency of Need	
21	13	10	Daily	36
28	13	17	Weekly	24
30	43	38	Monthly	31
6	13	17	Quarterly	0
6	11	10	Less Often	5

TABLE IV-12

USER-GROUP PROFILE--LIBRARIANS

SUBJECTS		USES	
Libraries		Student Services	Consulting
	Document Types		
69%	References	66%	65%
71	Curric. Materials	74	65
91	Resource Lists	71	68
	Current Sources		
94	Books	89	84
63	Conferences		
89	Journals	66	65
	Local Materials	54	55
60	Newsletters	60	55
	Frequency of Need		
16	Daily	54	55
23	Weekly	14	13
23	Monthly	14	16
3	Quarterly	0	3
6	Less Often	3	3

TABLE IV-13

USER-GROUP PROFILE--CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS

SUBJECTS		USES		
Inst. Meth.		Consulting	Class. Use	Current Awareness
	Document Types			
70%	References	74%	62%	71%
77	Curric. Materials	72	82	71
62	Technical Reports	72	53	50
57	Theoretical Papers	57		59
79	Case Studies	63	67	65
57	Reviews	65		50
62	Resource Lists	85	62	59
	Current Sources			
74	Books	72	76	71
	Colleagues	65	53	59
74	Conferences	74	78	74
81	Journals	78	76	74
53	Newsletters	70	58	62
	Technical Reports	50		50
	Frequency of Need			
13	Daily	30	27	26
30	Weekly	30	24	18
32	Monthly	22	31	29
17	Quarterly	11	7	12
6	Less Often	0	2	6

TABLE IV-14

USER-GROUP PROFILE--STATE AGENCY STAFF

SUBJECTS			USES	
Management		Consulting	Current Awareness	Admin. Functions
	Document Types			
69%	References	78%	70%	54%
66	Technical Reports	74	51	
	Theoretical Papers	62	58	
53	Case Studies	66	62	52
	Reviews	52		
52	Resource Lists	79	61	57
	Current Sources			
	Books	55	51	
52	Colleagues	62	56	57
70	Conferences	71	73	66
58	Journals	81	75	54
	Newsletters	70	70	58
51	Technical Reports	58		
	Frequency of Need			
8	Daily	33	23	27
32	Weekly	27	17	25
22	Monthly	29	34	19
18	Quarterly	5	12	13
13	Less Often	3	7	6

TABLE IV-15

USER-GROUP PROFILE--RESEARCHERS

SUBJECTS		USES		
Test/Eval.		Research	Consulting	Current Awareness
	Document Types			
92%	References	83%	79%	88%
92	Technical Reports	92	79	79
84	Theoretical Papers	86	64	75
	Case Studies	53	64	58
59	Resource Lists		50	
65	Data	56		
	Current Sources			
78	Books	78	54	75
59	Colleagues	67	57	67
62	Conferences	72	68	58
	ERIC	50	50	
89	Journals	86	79	79
	Newsletters		50	
59	Technical Reports	69	50	54
	Frequency of Need			
22	Daily	36	32	13
24	Weekly	22	18	46
30	Monthly	19	32	21
11	Quarterly	11	4	13
11	Less Often	3	4	0

B. SUMMARY OF PROFILES

A comparison of the profiles of the 15 groups revealed some similarities that cut across all groups as well as a number of differences that set the groups apart.

All groups tended to seek information from as many sources as possible and to indicate books as a principal source of information for nearly all subjects and uses.

There was also a tendency for respondents to want more than one document type for any subject or use. However, in this area there are some distinctions between groups in the types of documents desired. For example, teachers showed a low interest in reviews and syntheses. Consultants/Supervisors/Curriculum Directors and State Education Agency staff were the only two groups that showed interest in documents of this type. In both groups, the interest in reviews was generated by their roles as resource persons.

Only two groups indicated a desire for data per se. These groups were Superintendents/School Board Members and Researchers. The former group was interested in data on Budget and Finance, while the latter wanted data on Testing and Evaluation.

In general, the expressions of needs seemed to be direct functions of respondent roles. For example, there was virtual consensus (over 90%) among teachers on the correlation of practical curriculum materials to classroom use. Teachers also agreed on the correlation of curriculum materials to classroom subjects. Librarians agreed on the correlation of resource lists to the subject area of libraries. Researchers reached a similar consensus on the correlation of technical reports to research use.

In all groups there was an inconsistency in the interpretation of "frequency of need." It seems likely from the responses that some persons interpreted the question "How frequently do you need the information?" as meaning "How frequently do you use the information?" Others seem to have read the question as intended: "How frequently do you need to obtain the information?"

C. ERIC USE

Of the 15 user groups only Researchers indicated ERIC as a principal source of information, and it was used for research and consulting.

Tabulations were also made of the extent of ERIC use by the entire respondent population. To the question "Have you ever used ERIC products or services?" twenty-two percent responded affirmatively and 78%, negatively. The reasons given for non-use were as follows:

- 78% -- unaware of ERIC
- 12% -- ERIC materials not readily available or difficult to obtain
- 2% -- ERIC materials of little use
- 3% -- other

Respondents who had used ERIC were asked to note the specific products and services they had used. The responses (with multiple responses permitted) were as follows:

- 75% -- Research in Education (RIE)
- 45% -- Current Index to Journals in Education (CIJE)
- 38% -- Bibliographies
- 47% -- Bulletins
- 22% -- Demand searches
- 17% -- State-of-the-art reviews
- 7% -- Other

D. RESPONDENTS' COMMENTS

Space was provided at the end of the survey questionnaire for comments about the types of products or services respondents felt would be useful for obtaining education information. As is normally the case with this kind of question, the responses were far-ranging in scope and variety. However, they fell into four main categories.

- Comments on document types only
- Comments on subject areas only
- Comments on document types in relation to subject areas
- Comments on services

Document types only

The document types most frequently mentioned were, in descending rank order:

- Newsletters
- Bibliographies
- Case histories/case studies
- Bulletins
- Abstracts
- Digests
- Nontechnical versions of technical reports
- Raw data (research, survey results)

Subject areas only

Comments on subject areas fell into five categories:

- general

- teaching
- administration
- support services
- teacher education

The most frequently mentioned general subject areas were, in rank order:

- Instructional methods
- Individualized instruction
- Instructional materials
- Unstructured schools
- Workshops
- Government funding and aid
- Learning process

The most frequently mentioned subjects in the teaching area were:

- Reading and related subjects
- Mathematics and related subjects
- Music
- Vocational education
- Science and related subjects

The most frequently mentioned subject in the administrative area was:

- Finance and budgeting

Support service interest was heaviest in:

- Counseling

- Library materials
- Health services

In teacher education, the areas of greatest interest were:

- General information on teacher education
- Information on inservice training.

Document types in relation to subject areas

The most frequently mentioned combinations of document type and subject were, in rank order:

- Newsletters or bulletins on unstructured schools
- Practical guidance on unstructured schools and open classrooms
- Practical guidance on curriculum planning
- Newsletters or bulletins on instructional methods
- Newsletters or bulletins on reading
- Abstracts of reports on unstructured schools.

Services

Some of the most common suggestions for improving information services were:

- Demonstrations of new methods and techniques
- Faster and easier access to information
- Idea exchange service between schools and between teachers
- ERIC consultant visits to schools
- More information on ERIC.

V. IMPLICATIONS OF THE STUDY FOR PARTITIONING THE ERIC FILE

A. POTENTIAL BENEFITS OF PARTITIONING THE ERIC FILE

There are several reasons why it might be beneficial to partition the ERIC file. They can be summarized as follows:

- to identify ERIC as a resource that can help meet the information needs of all segments of the educational community.
- to improve retrieval efficiency, in terms of speed and relevancy.
- to improve the ERIC acquisitions program and to identify needed information analysis products.
- to support the dissemination of selected information, targeted to a particular audience or for a particular use.

Each of these benefits addresses an area of need in the ERIC program that has been identified, to some extent, in previous studies and is of concern to clearinghouse personnel.

1. Awareness of ERIC

This study has reinforced other study data pointing to the need for increasing the awareness of the ERIC system among educators. In response to the question on previous use of ERIC products or services, 78 percent of the sample indicated that they were non-users of ERIC. The following reasons were given by this non-user group.

Unaware of ERIC	78%
ERIC materials not readily available or difficult to obtain	12
ERIC materials of little use to me	2
Other	3

In identifying their principal sources of information, between 2 and 8 percent of teacher groups checked ERIC; among school administrators--principals and superintendents/school board members--the percentages were 7 and 12, respectively. Only for Postsecondary Teachers, Curriculum Supervisors, Researchers, and SEA Staffs do the percentages reflect some greater rate of usage, with averages across subjects of 18, 28, 45, and 33 percent, respectively. Such rates must be gratifying, but there is no doubt that they could be still higher.

If there were subsets of the ERIC file that were clearly addressed to the needs of individually identified user groups or applications (e.g., classroom use), the promotion of ERIC services and products could be greatly advanced, particularly with practitioner groups.

2. Retrieval Effectiveness

Partitioning the ERIC file could help to improve retrieval effectiveness. By reducing the number of records that need to be searched with a given configuration of resources, there can be an immediate gain in processing speed (and, thereby, in response time). Also, the same characteristics that are used to define the subsets serve as delimiters in a search strategy and, if carefully defined, they allow a searcher to focus or narrow a search immediately.

In manual searching, the partitioning--presumably reflected in "Mini-RIE's," or in sections within a single RIE--would reduce the time required for retrieval of unwanted materials. For machine searching, partitions, in addition to improving system response, could help to bring machine search within the economic range of more institutions, by limiting the size of the tape or disk files that need to be maintained and searched for users. But even for those institutions in which file size is not a major economic consideration, smaller, tailored files could mean faster and more responsive (more precise) searches.

Retrieval effectiveness would also be increased through the additional descriptive elements that would identify the partitions. This is particularly true for the areas of ambiguity resulting from use of a common terminology authority such as the Thesaurus of ERIC Descriptors for several dimensions of document description. For example, the term Curriculum Guides is now used to index research reports concerned with curriculum guides as well as to reference the curriculum guides themselves. It is unlikely that the searcher of research reports about curriculum guides will want to retrieve the guides.

3. Acquisitions and Product Development

Assuming that partitions reflect some criteria for combining elements that describe documents, the partitions should also provide NCEC with a basis for evaluating adherence to policy guidelines for the acquisition of materials and for developing new information analysis products. In a sense, the partitions could help to provide data base managers with better administrative control over their files, so that they can identify the weaknesses and strengths of the collection, if not in quality, at least in terms of documents that meet the criteria for any partition.

Partitioning could also benefit the NCEC information analysis program. In past years, the kinds of product types that have typically been created by or through the individual clearinghouses have been reviews and bibliographies; the gap in practical guidance materials has largely been met through the PREP (Putting Research into Educational Practice) program. Through partitions, the requirements for new products could be identified through the same monitoring process as are the strengths and deficiencies of the acquired materials and through the definition of document descriptors that make up a given partition.

4. Targeted Dissemination

Partitions could help to improve ERIC's dissemination targeting. According to Fry's study, RIE and CIJE sales have been leveling off, reflecting perhaps some saturation of the principal market of institutions, such as libraries and state and local educational agencies. Neither of these products is attracting the individual subscriber, perhaps for reasons of cost (a RIE subscription is $21.00; a CIJE is $39.00) or for lack of a clearly recognized need for regular use. Targeted "Mini-RIEs" would very likely be well received by particular user groups, not only because they would be less costly and less formidable than the full RIE issues but also because they would indicate to each group that it is the object of explicit USOE attention.

B. ALTERNATIVES FOR PARTITIONING THE ERIC FILE

The various elements in the unit record of ERIC documents--those elements that are currently available and others that might be added--represent a potential basis for partitioning the ERIC file. Although, in this study the possibilities of partitioning were explored with the freedom of envisioning a future document description system, we should first review the alternatives that are currently available or are already in operation, and then discuss general alternatives for partitioning that could result from the addition of new elements in the document descriptions.

1. Current Elements for Partitioning

The current ERIC file is already physically partitioned in that Research in Education (the report literature) and Current Index to Journals in Education (the journal literature) are prepared from different computer tapes. Each of these literature classes has unique elements in the unit record, and, if both files are merged, the partitioning elements are still present.

A second kind of partitioning exists in the monthly update tapes. These tapes, which are used to produce the monthly announcements of current acquisitions to RIE and CIJE, represent a continuing time partition of the ERIC file. Until the monthly update tapes are merged with the cumulative file, they can be used for SDI-type computer searches or for searches on a data base restricted to the most current materials. Therefore, publication date, as a unit record element, is always readily available as a basis for partitioning.

The criterion of time can always be applied by ERICTAPE users to selectively partition the ERIC file in their own facilities if file storage becomes a problem or if the demand for very current material becomes significantly different from the demand for less current material.

A third kind of partitioning exists in the grouping of documents by ERIC clearinghouses. Although the groups of documents from the various clearinghouses are not physically separated--they all appear on a single tape or in a single issue of RIE--they are "partitioned" or organized in sections within the RIE publication. This sectionalizing serves a definite partitioning function by providing the educated RIE user--one who knows the scopes of the different clearinghouses--with means for reducing the size of the "file." It is also possible to partition the physical file at any time, since "clearinghouse" is an identified element in the unit record. However, the clearinghouse structure, and those subsets established within the clearinghouses to reflect the scope of their areas, represents a mixture of content, levels, and learning groups, only some of which might parallel partitions that are created along the dimensions of user-group need clusters. In other words, the organizational rationale for a clearinghouse--for example, in the requirement for bringing together with special subject expertise--will not have to be reflected in the identification of partitions. Therefore, a single clearinghouse might very well have a corresponding single partition, whereas, other clearinghouses might contribute different parts of their own files to several partitions. It is important to recognize the potential of the clearinghouse topic areas as partitions. However, we believe that it is equally important to consider possible alternative partitions outside the framework and limitation of current structures based on inputting--as opposed to--user-based requirements.

2. Potential Elements for Partitioning

Several facets of the document descriptors that are presently incorporated into the Thesaurus of ERIC Descriptors could be elements for partitioning, if they were applied consistently as nonsubject descriptors. The two major types of descriptors that seem most appropriate for reflecting the structure of the educational system and the roles of educators are level (e.g., elementary, secondary) and document type.

If this capability were introduced into the present indexing system, it is conceivable that some major partitions could be created, either by level (e.g., documents related to elementary schools) or by document type (e.g., practical guidance materials). However, neither of these single-dimension alternatives would be likely to meet the multidimensional need patterns of different user groups.

Another potential element in the descriptor system that might provide a strong basis for partitioning is the concept of "classes." These classes would encompass several topics and specific descriptors but, in general, would promote some grouping of documents that could be related to the general interests of different user groups.

Theoretically, any of these elements could provide a basis for partitioning. However, we anticipated that any user-oriented partitions would most likely involve a combination of elements. Such combinations of elements are illustrated in the following section, which identifies potential bases for partitioning the ERIC file.

C. POTENTIAL BASES FOR PARTITIONING THE ERIC FILE

The data from this study clearly demonstrate the difficulty in creating partitions solely along the dimension of individual user-group needs. A partition labelled ELEMENTARY TEACHER SUBFILE, for example, would most likely be made only if there were evidence that the application of information by this group in teaching elementary children required documents different from those needed by Elementary Curriculum Supervisors or Elementary Principals, two groups that overlap in subject and document-type information requirements and differ only in their roles and, therefore, use of information.

Our approach in interpreting these profile data was to compare subject and document type needs across user groups and to draw distinctions only where we could assume that the differences in applications or use of information are so great that, indeed, different sets of documents might be required. In interpreting these profiles, it is also necessary to limit our discussion to the primary need patterns that were discerned. The nature of the educational community--in its requirement for continuing education, in the pattern of personnel advancement from level to level or from classroom to administration, and in the dual roles that are implicit in many groups--creates an amorphous context that hampers efforts to characterize educators in terms of identifiable and stable groups. However, the underlying assumptions--that educator groups are stable in their primary needs and that those needs relate directly to their primary roles--are supported in our survey data. We have some basis, therefore, for pursuing the identification of alternative partitions.

The groupings that are represented in the following profile summaries do not represent clearcut partitions; the data do suggest, however, that in some cases the partitioning might be based on a broad subject dimension and a generic type of document (e.g., practical guidance materials) that would meet several user groups' needs. In other cases, it might need to be multidimensional (in both subject and document type).

Summary and Comparisons of Profile Data

The typology used in the survey allows us to examine the profiles of eight teacher groups: (1) Preschool/Kindergarten Teachers, (2) Elementary Teachers, (3) Secondary Teachers, (4) Postsecondary Teachers, (5) ABE Teachers, (6) Reading Specialists, (7) Vocational Educators, and (8) Special Educators. Their profiles are first compared with the profiles of other school personnel, including Principals, Librarians, and Curriculum Supervisors. The remaining user groups are discussed individually or in combinations that represent mutual problems in interpretation.

Teacher Groups. The expressed primary need patterns of the several teacher groups are strikingly similar. The basic elements in the resulting cluster are:

Subjects:	Classroom Subjects; Instructional Methods; Individual Growth and Development
Document Types:	Curriculum Materials; Case Studies; Resource Lists
Uses:	Preparing or planning classroom materials or curricula (including improving teaching methods; evaluating students; or preparing other materials related to teaching)

This apparent homogeneity of needs does disguise some variables that might require the creation of several subsets within the overall grouping; these variables include:

- Level (e.g., elementary; secondary)
- Classroom Subject (discipline)
- Learning group (e.g., slow learner; exceptional children; mentally retarded; disadvantaged)

Therefore, the stability of the teacher grouping stems primarily from two variables--document type and use. The major variability within the grouping is represented by combinations of classroom subject and level, with secondary consideration for the particular learning group. Thus, the possible combinations of these variables introduce some mutually exclusive groupings of documents, but some overlapping areas as well, where, for example, the level or learning group cannot be clearly differentiated.

Principals and Asst. Principals. The need expressed by this group in subject and document type is for practical guidance materials in the area of Instructional Methods. In their main use of information, to help perform administrative functions, this group needs practical guidance materials (case studies and resource lists) most of all. Thus, there is an overlap with the teacher-group profiles on two variables, subject and document type, but, as one would expect from the roles involved, the application of the information is primarily in administration, and only secondarily for classroom-related uses. The primary consideration for partitioning, then, is whether documents on the subject of Instructional Methods can be differentiated by their intended application (administration vs. classroom use) or whether the same document (i.e., a practical guidance work on Instructional Methods) can serve both teacher groups and principals.

Librarians. It is important to preface comments on this profile with a clear statement that the users included in the sample are primarily school librarians; they do not represent the needs of the academic librarian or the information scientist. The major and singularly most important subject interest of this group is Libraries, and their major need is for materials aimed directly at the provision of library service. Nevertheless, their perference for curriculum materials and resource lists, together with their need for information in performing students services and their own role as information resources, shows a strong commonality of needs with the teacher groups. No doubt, this commonality stems in part from the fact that they share a common work setting.

Consultants, Supervisors, Curriculum Directors and State Agency Staff. Both of these groups indicate a broad interest in various types of documents, ranging from curriculum materials to technical report literature. Their role perceptions are similar in that "functioning as an information resource or consultant" is their major information application or use. However, the fact that the Supervisors are interested primarily in Instructional Methods and the

SEA staff in Management (program planning) leads one to question their degree of similarity. The "distance" of each of these groups from the classroom situation differs, and it is therefore possible that the desired treatment of given topics in the literature must also represent different degrees of applicability. The implied use associated with different document types is perhaps the element that accommodates the work setting-based differences in needs of these two groups. Therefore, breadth of choice in document types might be the critical element or dimension in establishing partitions addressed to their needs.

Superintendents and School Board Members. This group is the most difficult to characterize, for the data do not indicate a clear, or at least strong, relation between the three elements we have thus far been considering--subject, document type, and application or use. This lack of clear consensus could be attributed to the fact that this sample of 37 represents two groups, both of which were smaller in number than the previously discussed groups. But, it might also indicate a diversity of needs, and differences among needs in terms of document type and subject or use. Three subject areas--Administrative Agencies, Finance and Budget, and Community Interaction--interested the majority of the sample. They could provide a basis for initial groupings.

Counselors. The profile of this group reflects both the theoretical and practical aspects of their role. The group identifies Support Services (i.e., counseling), Individual Growth and Development, and Test and Evaluation as subject interests. In document type, the needs appear to be differentiated by subject--case studies for Support Services, and technical reports for Individual Growth and Development. Only on the basis of role is there the suggestion of a unique set of information needs, but the subject overlap with the teacher-group profile in Growth and Development also suggests some secondary level of commonality with the teacher group.

Researchers. The distinguishing feature of the Researchers' profile is in the document type and application needs. References, Technical Reports, and Theoretical Papers are predominant document-type needs for their three major uses of information: research, consulting, and current awareness. The identification of Tests and Evaluation should most likely be interpreted only as an indication of the kinds of subjects in which researchers are interested. The multiplicity of subject needs and the shifts in primary subject interests that are assumed to exist within the researcher community reduce the meaningfulness of the subject dimension in any attempt to define a partition for Researchers.

Implications for Partitioning

These profiles, and the groupings of needs that are evidenced in the comparisons, provide some basis for interpreting the implications of the study data for partitioning. This interpretation must of necessity be broad, because of the lack of detail in relating the broad subject dimensions to specific descriptors and the lack of evidence, at this time, that a cluster of documents can be identified in terms of these need-group dimensions. The development of this evidence was beyond the present project, but the evidence must eventually be developed if partitions are to be implemented on an empirical basis.

The initial implications, therefore, must be stated in terms of candidate partitions that appear, a priori, to have the potential for achieving some of the benefits identified in the previous section. The major implication that can be drawn from these profile data is that there is no single formula for applying elements (i.e., subject, document, type, and use) with equal weight to establish the parameters of a partition or the criteria for inclusion.

The complexity in characterizing both the elements of importance in partitions designed to meet different needs and the "weights" of these elements is illustrated in Figure V-1.

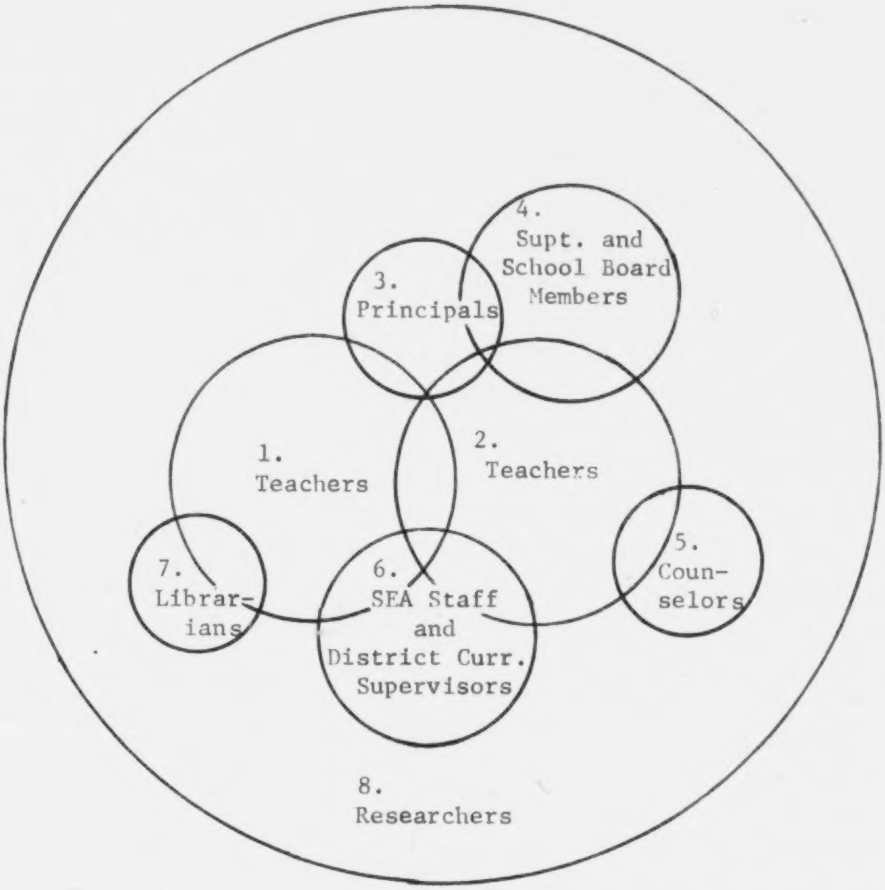

Figure V-1. Representation of Primary Need Patterns of Various User Groups

The two large circles in Figure V-1--1 and 2--represent the major kinds of materials that are of common interest to the largest number of user groups--Teachers. These two circles represent (1) CLASSROOM SUBJECTS/PRACTICAL GUIDANCE MATERIALS, and (2) INSTRUCTIONAL METHODS AND PROCESS/PRACTICAL GUIDANCE MATERIALS. Other user groups are represented in this illustration in terms of the degree to which their needs appear to overlap the two primary and identifiable needs. The user groups/materials that lie outside the major two circles were discussed more fully in the previous section; briefly, they are:

3. Principals: Materials that would meet special administratively related needs.
4. Superintendents and School Board Members: Materials that would cover broad subject areas, such as ADMINISTRATIVE AGENCIES, BUDGET AND FINANCE, AND COMMUNITY INTERACTION, in a variety of document types.
5. Counselors: Materials, in both theoretical and practical guidance document-types, that cover the area of COUNSELING and TESTING AND EVALUATION.
6. SEA Staff and Curriculum Supervisors: Document types other than practical guidance materials, and material covering MANAGEMENT (i.e., program planning).
7. Librarians: Practical guidance materials directly concerned with school library operations and the provision of library service.
8. Researchers: Materials of all kinds in the spectrum of topics, including some practical guidance materials, but primarily in technical reports, references, and theoretical papers.

Our data do not permit us to identify desirable partitions with any high degree of assurance, but they do help to identify a number of candidate partitions, discussed in the next section.

Candidate Partitions

The major clusters that are derived from this study's data can be used to illustrate the kinds of partitions that could be established, given the following major prerequisites:

- that appropriate nonsubject descriptors will be developed to help describe the document in a way that meets the specifications or criteria for the partitions;
- that the acquisitions and information-analysis-product program can, in the future, provide the input for these partitions;
- that the subject classifications implied in the partitions can be applied meaningfully and reliably to individual documents

The need patterns reflected in Figure V-1 have been translated into some candidate partitions, shown in Table V-1.

The two major clusters that are classroom-related can be translated into a number of candidate partitions. To establish a common framework for envisioning these partitions, we have chosen to describe them as partitions for product development. In this way, we can discuss the formatting options that can help to refine or broaden the partitions. (For the moment, we can assume that the indexing that supports the creation of these partitions will also serve to increase the machine retrieval efficiency, and that any decision to implement partitions in physically separate files would be made only after trial partitions are tested in some economical way for their validity, usefulness, and frequency of use.)

TABLE V-1

CANDIDATE PARTITIONS

CHARACTERISTICS OF THE PARTITION	ORGANIZATION	MAJOR USER GROUPS SERVED
1. ELEMENTARY CLASSROOM SUBJECTS	BY DOCUMENT TYPE	ELEMENTARY TEACHERS ELEMENTARY PRINCIPALS ELEMENTARY LIBRARIANS ELEMENTARY CURRICULUM SUPERVISORS SEA STAFF
2. SECONDARY CLASSROOM SUBJECTS: COMMUNICATIONS SKILLS (E.G., ENGLISH, READING, LANGUAGES)	BY DOCUMENT TYPE	SECONDARY TEACHERS SECONDARY PRINCIPALS SECONDARY LIBRARIANS SECONDARY CURRICULUM SUPERVISORS SEA STAFF
3. SECONDARY CLASSROOM SUBJECTS: SOCIAL STUDIES/SOCIAL SCIENCES	BY DOCUMENT TYPE	
4. SECONDARY CLASSROOM SUBJECTS: MATH AND SCIENCE	BY DOCUMENT TYPE	
5. SECONDARY CLASSROOM SUBJECTS: VOCATIONAL AND TECHNICAL	BY DOCUMENT TYPE	
6. INSTRUCTIONAL METHODS/ PROCESS	BY LEVEL BY DOCUMENT TYPE	TEACHERS PRINCIPALS CURRICULUM SUPERVISORS SEA STAFF COUNSELORS SUPERINTENDENTS
7. EDUCATIONAL ADMINISTRATION (BUDGET & FINANCE)	BY TOPIC BY DOCUMENT TYPE	SUPERINTENDENT AND SCHOOL BOARD SEA STAFF

The first decision in translating the clusters to partitions is the question of differentiating between combinations of elements (i.e., subject, document type, and level) by creating numerous partitions or in using organization and formatting alternatives to create a partition for several uses. As shown in Table V-1, we have chosen a combination of decisions, some of which might be altered on the basis of numbers of documents that are regularly acquired for the partitions or on the basis of user-group demand.

For each candidate partition, we first indicate its major characteristic by subject alone, or in combination with a level. The organization of the printed publication is indicated in the second column, followed, in the third column, by the major user groups that would be served. Although not sampled specifically in this study, we can assume that teacher-educators would be another major group served by these partitions.

Partition 1. In the first partition, we included all document types on Elementary Classroom Subjects because such a file expands the use of the single product by the several user groups that overlap in subject-area interest. The organization of the single product into sections that are differentiated by product type allows for differences in uses or applications of information by the different user groups that are targeted in the single product.

There are options within this sectional organization, in that generic classes (i.e., practical guidance materials, research reports, syntheses) might be used as substitutes for, or in addition to, the more refined document-type tags. The likely choice would probably be that the actual unit record would be specific in its document-type tag (e.g., case study; curriculum guide), but its placement in the publication would be at the more generic level. The fact that this kind of decision would have to be made suggests that the definition of document types should be done by "class" so that their relation to a broad orientation or intended application is automatically incorporated.

Partitions 2 through 5. These partitions are, in essence, subpartitions of a major partition: Secondary Classroom Subjects. The degree of refinement in each of the subpartitions should probably reflect some relation to both the acquisitions in, and demand for, the groupings or for single subject areas.

Partition 6. This partition represents a broad concept under which the response choices on the questionnaire--Individual Growth and Development and Instructional Methods--might be encompassed, until there is a clear refinement that is revealed through matching it with the current descriptors and user groups' preferences. This partition would most likely be widely used and should be organized by level (as appropriate0 and by document type.

Partition 7. The final partition can be stated only broadly on the evidence from this study's data. The emphasis of the contents would definitely be on administration and management, but the specific topics can not be identified. The organization of this product should include not only document-type sections but topical sections, as well. Then the topics can be defined and refined through user experience and may, in turn, reveal the composition of new subpartitions, similar to the Secondary Classroom Subjects.

Additional Candidates. There are several areas within the current clearinghouse structure--and in the models proposed in the RAND study--that point toward some possible partitions, particularly those that are focussed on special learning groups. These areas include Exceptional Children (and all of the subpartitions that are subsumed under this category) and the Disadvantaged and Rural Education groups.

The common characteristic of all these possible partitions is that they serve multiple user groups and that any one user might be interested in several partitions. We believe that this approach to partitioning can successfully accommodate the complexities in the taxonomy of education and in the educational community of users and that it can provide a flexible basis for creating and maintaining the partitions.

VI. RECOMMENDATIONS

A. MAJOR ACTION ALTERNATIVES

The present study points to three major action alternatives.

- Move into operations with a fully partitioned ERIC file
- Move into pilot operations with a selectively partitioned ERIC file
- Initiate a pilot SDI program

Alternative 1: Operations with a Fully Partitioned ERIC File

The first alternative would involve division of the entire ERIC file into sections, largely though not entirely on the basis of subject matter. The partitioning would be applied to all ERIC products--to RIE, CIJE, microfiche, and tapes. Users would be able to purchase individual sections, as well as a complete product.

Moving into operations with a fully partitioned ERIC file has a few advantages and many more disadvantages. It could be advantageous from the standpoint of public relations--the ERIC "image"--with the educational community. A program that provided a variety of products--hard copy, microfiche, tape, etc.--that were packaged to serve the needs of particular subsets of the educational community would evidence USOE's determination to continue to improve its targeting. Moving into operation with a fully partitioned file would also soon provide experience with all user groups, experience that would not become available for some time under a less comprehensive approach such as the second alternative (pilot operations with a selectively partitioned file).

The disadvantages to the full-partitioning approach are serious ones. The first is that there is presently inadequate information on the relation of individual index terms--including the noncontent tags we have been discussing--to possible partitions. That problem would, of course, have to be resolved early in the program for any kind of partition-based operations, whether full scale or pilot. A more serious problem is that there does not yet exist an adequate basis for defining all the desirable partitions of the ERIC file. The present study has identified some possible partitions, but it has also raised questions about the extent of overlap between potential user groups and document groups, questions that cannot be resolved with current data, either from the present study or from prior ones.

A third disadvantage of moving into full operations with a fully partitioned ERIC file is that ERIC's credibility could be damaged if the targeting reflected in the partitions proved to be noticeably inaccurate. This could be the case where users in a particular group receive a great deal of information that ostensibly does not meet their interests or where they discover that considerable material of potential interest to them is no longer reaching them because it is now part of other partitions. Any partitioning scheme, of course, must contain within itself a monitoring and feedback function, to correct not only for initial-assignment "mistakes" but for changes in the nature of educational interests. Even with such a function in operation, and in full view of the educators, there could be damage to USOE credibility from full-scale, partition-based operations that do not have a firm empirical foundation.

Alternative 2: Pilot Operations with a Selectively Partitioned ERIC File

The second alternative would require the establishment of 5 to 10 sections of the ERIC file, which would be available separately. The program would be announced and clearly identified as a pilot program, with the intent of testing the concepts and mechanics of partitioning.

This alternative shares some advantages with the first alternative. It would provide immediate visibility to a new kind of ERIC targeting, and it would provide for some fairly immediate feedback on the usefulness of the partition approach and on the adequacy of the partition-based targeting reflected in the pilot operation. It has some additional advantages over the full-partitioning approach. The most important of these is that it permits USOE to develop experience with the partitioning approach relatively safely, working in selected areas where the partitions can be defined with greater assurance of accuracy. As experience is developed with the initial partitions, that experience can be used in planning for additional partitions, as well as for the "fine tuning" of the initial partitions.

One additional advantage of the selective partitioning approach stems from the fact that it may never be possible to fully partition the ERIC file; that is, there may always be some topical areas (or types of documents) that defy a clear relation to particular user groups. Such documents must either be part of all partitions or they must reside in a partition called "Other" that is made available to all user groups. The advantage of the selective partitioning approach is that it does not force premature identification of all partitions and does not force USOE into the implicit commitment to partition-based operations that the full-partitioning approach does.

While the selective partitioning approach has several important advantages over the full partitioning approach, it nevertheless has disadvantages too. There is insufficient data on which to define the document-tag-to-partition relation and, as we indicated in Chapter V, the amount of overlap in interests among various educator user groups precludes confident selection of even a few partitions. The backfire effect that is potentially so dangerous for the full partitioning approach is not nearly so much a problem with the selective-partitioning approach, especially if the latter is announced in terms of pilot (i.e., experimental) operations, but there is some risk that user reactions to mistargeted material or to missed material can prove embarrassing to the ERIC program.

Alternative 3: Initiate Pilot SDI Operations

The third alternative is to mount an experimental program of selective dissemination of information, for a limited period of time--6 to 12 months, to several hundred educators generally representative of the educational community. Their interest patterns would be translated into detailed individual information-requirements profiles, and each month they would receive SDI announcements on new literature that has entered the ERIC system. The SDI matching mechanics would be handled by computer, using the monthly ERIC tapes. The SDI program would be announced and clearly identified as experimental, and participants would need to agree in advance to provide a certain level of feedback information to the program. USOE would collect and study the feedback information to determine the relation of individual document tags to possible partitions and to estimate the extent to which equally successful (or better) targeting could have been accomplished through partitioning, e.g., by group SDI or by mini-RIEs.

This approach offers many advantages over the two other alternatives. It provides a means by which ERIC could move toward partition-based operations without serious risk of backfire. It would provide a means to determine and test the relation of individual descriptors to possible partitions, before those partitions are placed in operation or even mentioned in public.

The pilot SDI approach has the advantage of not demanding more information on the bases for partitioning than is presently available; it can be initiated using the present content descriptor system, together with the new noncontent descriptors recommended by this study. The fact that SDI, by its very nature, is concerned only with new material means that USOE need not concern itself with the back file; the pilot SDI program can begin fairly soon after the clearinghouses begin to use the new noncontent descriptors.

Although the selective SDI approach does not use the same type of targeting that would be used in partitioning, it reflects the same kind of concern with improved targeting that the other approaches do. Therefore, the SDI approach would have a very desirable visibility to the educational community. Because SDI operations are, by now, a very well developed art--scores of machine-based systems are in operation, with well engineered computer programs--there is minimal technical or financial risk to USOE, and because the program would be advertised as a pilot, there would not need to be a commitment to continuation.

There are several possible disadvantages to the selective SDI approach. One is that, as an alternative to partitioning, it would delay movement into partition-based operations. As suggested earlier, we do not believe that this is a serious disadvantage if, indeed, a disadvantage at all, since there is presently inadequate information on which to define stable partitions. Also offsetting this possible disadvantage is the fact that careful monitoring of user feedback from the SDI pilot study can provide precisely the kind of information needed to develop stable partitions.

A second possible disadvantage is that SDI introduces a new technology into ERIC operations and would require some startup expense for operations planning, for acquiring and tailoring an SDI program, for developing forms to capture user profile information, and the like. But counteracting this problem is the fact that SDI technology is generally well understood and is, if anything, simpler to put into operation at this time than partition-based targeting of ERIC materials.

A third possible disadvantage is that SDI, even on a pilot basis and fully identified as experimental, may imply a commitment for USOE to continue the service. We regard this as a minimal risk situation. If the service, quite apart from its contribution to ERIC-partitioning plans, does prove to be highly desirable in its own right, USOE would probably wish to encourage its continuation and might be able to solicit the same kinds of interest from the private sector that have proved valuable in the publication of CIJE and in the development of SDC's nonsubsidized, on-line retrieval service for the ERIC file. If the pilot SDI program did not prove successful, unlikely but still a possibility, there would be little protest if USOE were to discontinue it, as planned, at the end of the pilot study period.

Another possible disadvantage of the pilot SDI approach, shared to some extent by the selective partitioning approach, is that not all user groups can be included at the outset of the study. Full-scale individual SDI operations for the entire educational community are both too expensive and too massive an undertaking for immediate consideration by USOE, so some educators would have to wait for SDI service (or for the partition-based operations that could follow it after sufficient empirical data were available). This is a problem with any approach that does not immediately promise to serve the entire educational community. But educators who do not presently have SDI-type service available to them are unlikely to express serious concern about its lack for the year or two that might be required for pilot operations.

One way of compromising on the breadth-of-service problem would be to use so-called Group SDI, in which documents are distributed not in accordance with the interest profiles of individuals but in accordance with the profiles of a group of individuals. (In practice, this approach represents a type of partitioning.) While this method could provide for wider SDI service for the same USOE resources, it would reduce the amount of data that could be developed from individual-oriented SDI operations to help relate individual descriptors to candidate partitions. We would therefore regard individual SDI pilot operations as the more desirable alternative.

B. RECOMMENDED PROGRAM

1. Develop and Elaborate Nonsubject Descriptors for ERIC Documents

Nonsubject descriptors are defined here as (1) document-type tags (e.g., resource lists); and (2) level (e.g., secondary) indicators. There are a variety of these kinds of descriptors that already exist in the ERIC Thesaurus of Descriptors and others, specifically in document types, that were explored in the response choices provided in this study's questionnaire. These already-existing terms should be useful as an initial set of terms in both areas that can be: (1) carefully defined, and perhaps placed into a classification scheme (e.g., curriculum guides might be a specific description in a class labelled practical guidance materials); (2) tested for the reliability with which they can be applied consistently to reflect some of the broad use or application orientations that were described in the study results; and (3) implemented through the addition of new fields in the unit record. A recommended way in which these descriptors could be developed and elaborated follows.

a. Secure as exhaustive as possible a list of potential user groups. This list should be aimed at exhaustiveness initially. Opinion should be gathered from ERIC centers' personnel, from the educational community, and from ERIC planners. Consideration should be given to the potential ERIC interface with other systems such as APA and social science collections. The current and future acquisitions program and plan also need to be considered. It is not easy to conduct a comprehensive analysis of the current acquisitions program because nonsubject descriptors are lacking or used inconsistently and because broad classifications are lacking that could be matched with subject descriptors so that "clusters" could be identified. Nevertheless, an attempt should be made to secure operating data and professional judgments that represent the best current estimates of immediate future changes and additions to the acquisition plan.

b. Generate the nonsubject descriptors that will identify and discriminate between file contents of interest to these groups. Each potential user-group description should be iteratively polished when questions arise about its characteristics and attempts are made to invent or adapt from the ERIC Thesaurus appropriate nonsubject descriptors. In turn, the descriptions should be checked against the perceptions of members of such groups.

c. Enunciate and refine an initial set of indexing instructions and rules for the nonsubject descriptors. The judgments involved in indexing assignments can be very subtle and difficult, particularly for the kind of nonsubject descriptors that directly rate the appropriateness of a document for a certain kind of user operating under a certain kind of use orientation. To help define the rating or check tag, brief descriptions need to be written that will specify the nature of the information application, the particular way in which tag-related information fits into work-related needs, and the nature of the information intended under the tag.

d. Pilot-test interindexer consistency of the nonsubject descriptor. A major portion of the problems that cause indexer inconsistency can be discovered and corrected by running indexer consistency tests at one or, at the most, two ERIC centers, thereby avoiding the disruptive effects of a broader sampling through the ERIC system with unrefined materials. Each significant disparity in indexing should require an explanation of the logic employed by the indexer. The rule should then be elaborated, tightened, or divided into two different rules. If the rule is adequate but was forgotten by an indexer, a checklist or reminder device may need to be devised.

e. Test the refined nonsubject indexing system at all ERIC centers. Before testing at all centers, the materials and instructions that compose the new system should be made as self-contained as possible through pilot testing. The materials should be self-explanatory. Instructions for this field test period should clearly specify: (1) the limits in time and effort for the test, (2) the purposes (to inform ERIC center personnel and get their critiques for final refinement of the system), (3) the means by which observations and criteria should be employed to determine strengths and weaknesses in the system, and (4) accuracy and reliability standards for the indexing performance.

f. Install and run the nonsubject indexing system. Data from the test phase will provide bases for estimates of added levels of effort required to accomplish the additional indexing, and installation should include provisions for the extra effort. Also, a feedback system needs to be devised so that operational experience can be efficiently used to improve the system.

2. Develop Associations Between Descriptors and Candidate Partitions

One of the strongest requirements for pursuing partitioning activity is to identify clusters or sets of descriptors (and identifiers) that are to be associated with any given partition. More specifically, there is a need to relate the individual terms and groups of terms in the current ERIC vocabulary to the potential partitions. If these relationships can be identified, defined, and then incorporated into the ERIC vocabulary, the resulting benefits will occur beyond the immediate concerns--exploration of the partitioning concept--and significantly aid in the usability of the ERIC system--a high priority objective for NCEC.

We believe that there is a wealth of experience that is potentially relevant to the task of associating descriptors and candidate partitions, experience that is reflected in the knowledge and skill of the ERIC Panel on Educational Terminology, the ERIC clearinghouses and educational information centers. The individuals can draw, in turn, on a wealth of material and files with which they regularly work, such as:

- Central ERIC search request files
- Clearinghouse search request files

- Clearinghouse information analysis products
- Regional, state, and local educational information center search request files
- SDI service centers' ERIC profiles
- UDC/Education classification schedules
- Dictionary of Education review panel classification
- University educational curriculum content patterns
- ERIC-related studies, including this one
- Commercially sponsored ERIC-related product development

The task of developing the associations between descriptors and potential partitions can be carried out as follows:

a. Define Potential Partitions. USOE can select one or more of the candidate partitions suggested in the present study, or an entirely different one, as a point of departure for the first descriptor-partition association exercise. SDC would recommend the selection of Elementary Classroom Subjects and Secondary Classroom subjects for several reasons: (1) a large number of users (potential and actual) expressed interest in these areas; (2) the association with the present descriptor system will most likely present fewer problems than an area such as instructional methods; and (3) the implicit attention to the practitioner--particularly to teachers--reflects the most pressing targeting problem for ERIC.

b. Select Team of Reviewers. A 6-to-10-person team, drawn from PET, clearinghouses, and educational information centers, should be enlisted to carry out the task of assigning terms from the ERIC Thesaurus, plus the new nonsubject descriptors, to the candidate partition. They should be individuals who are intimately familiar with ERIC vocabulary and with its use in retrospective searching. They should also be persons who can work effectively in a group whose goal is to achieve consensus efficiently.

c. Assign Descriptors to Groups. The Review group will, either in a group or possibly individually at their own locations, mark an ERIC Thesaurus to identify the individual descriptors that they believe should be associated with the candidate partition. Some disagreements can be resolved by discussion; others will need to be earmarked for further consideration, in step d.

d. Carry Out Selective On-line Testing. For those descriptors on which there is substantial disagreement among the Reviewers on the descriptor-partition relationship, a number of on-line searches can be carried out to determine the kinds of documents are produced by the descriptors (or combinations of descriptors) in question. After preliminary analysis by the member of the project team carrying out this study, some portion of the materials can be sent to the Reviewers (or they could be reassembled) to help reconcile their previous differences.

e. Refine Descriptor-Partition Relationships. After the Reviewers have endeavored to reconcile their differences particularly on descriptor-partition relationships, an agreed-upon list will be prepared. It will serve as the basis for the document distribution assignments that will be part of the pilot SDI operation described in the following section.

The study outlined above need not be confined to a single partition. It may be desirable and, in the long run more economical, to have the Reviewers address several candidate partitions as part of the same review process.

3. Perform Selective Dissemination of Information Experiment

The pilot SDI operations described in Section A, as Alternative 3, are intended to provide a means by which USOE can determine and test, with a minimum of risk, the relationship of individual descriptors to candidate partitions, before those partitions are placed in operation.

The following general procedure would be followed:

a. Design the SDI experiment. The logic of the experiment should be to provide SDI users with output appropriate to their profile descriptors but, in addition, to augment these with selected materials from partition models that are "kept in the background." In some cases certain identification data may need to be stripped from the outputs to avoid biasing users' evaluative responses. Each user will be required to rate the relevance and usefulness of individual items, including those additional selections that are part of a "partition" that is identified as relevant to his needs. From the rating data, analyses can be run to discover whether each particular file partition specification actually selects additional user-relevant items and minimizes nonrelevant ones.

b. Identify selected user participant group candidates. Two main criteria should be used in selecting participant group candidates; estimated chances of suitability for file partitioning, and estimated yield of information from experimental study of that group. A mixture of these criteria could be used to establish a rank order of candidate group appropriateness for the SDI experiment. The information for making these judgments should include the present and earlier reports, as well as ERIC personnel professional experience and, if possible, additional analysis of past query files and records of ERIC system traffic.

c. Identify descriptors relevant to the selected candidate participant groups. These should include both nonsubject descriptors and likely subject descriptors. For both types, a cross check with members of such groups should be made, to try to "tune" the partition definition in a manner similar to the way such partitions might be expected to be "tuned" in operational practice.

d. Do indexing consistency study of nonsubject descriptors. This step is also included in the task to develop and augment the nonsubject descriptors for the entire system. However, it will cover a narrower area of purview and will need to be finished sooner than the corresponding step in Program 1.

e. Index the appropriate incoming materials to the ERIC file. No back indexing will be needed. For the SDI experiment, ideally all indexing should be done at one center by a limited number of personnel, to provide consistency and to allow sufficient administrative control to get the task finished on schedule.

f. Evaluate, select, and install SDI software. There are a number of off-the-shelf SDI programs available. One should be chosen that is most compatible with the ERIC system's present software or immediate future plans, budget, and operational requirements. The software should be installed and any modifications made well in advance of the experiment. Shakedown operations should be performed so that the experiment is not distorted by system malfunction.

g. Establish software system experimental operating protocols. The terms of experimental requirements need to be translated into procedural instructions, query patterns, and standard operating procedures for the different treatments of the experiment. These procedures should be pilot tested before the experiment.

h. Design publicity and sign-up and agreement procedure. The purpose of the experiment need to be explained to the participants, and clear instructions given for relating to the experimental effort. Questions, such as why SDI is being supplied to one group and not to another, why only certain user sites are receiving the service, how one qualifies for service, and what obligations the user incurs in participating, all need to be spelled out carefully in textual materials and tested for understanding.

i. Run experiment. Quality control and checking of outputs to the user must be continuous. Monitoring to assure prompt and complete user evaluative responses to the output must be undertaken. Problems, complaints, and misunderstandings must have a clear and responsive channel available for swift resolution. The data should be checked, edited, and keypunched for analysis on an ongoing basis as the experiment progresses.

j. Analyze data and write report. The discrimination improvement power of various file partitions can be assessed in terms of their effect on relevance judgments. Standard data analysis utility programs can be used for this purpose. The report will provide an answer to the questions: "Do file partitions that have been constructed with approximately the amount of skill expected to be available on an operational basis reduce the proportion of low or non-relevance items delivered to the user, and increase the average relevance of the remainder delivered to him?" and, "Does the quantitative advantage found seem to be justifiable in terms of the estimated added costs of the operation?"

4. Integrated Schedule for Recommended Activities

If USOE were to elect to undertake all three major recommended activities, some duplication of effort could be eliminated and the advantage of cross-fertilization could be gained by considering the timing relation of the three activities. If calendar time were of no concern to USOE, all three tasks might be run serially. In this case they should probably be accomplished in the order in which they are described in this report; with development of non-subject descriptors informing the development of partition components and related revision of the thesaurus, and both these then setting the stage for the SDI experiment. This approach would have the advantage of keeping the simultaneous staffing and funding level requirements down, but it would have the disadvantages of slowing the improvement of ERIC services and of denying the earlier-phased tasks the benefit that might accrue from insights gained in trying to do the later-phased tasks. SDC would not recommend this scheduling approach.

A second approach would be to run the first two activities simultaneously and, upon their completion, begin the SDI experiment. This has the advantage of allowing greater cross-fertilization between the developments for content and non-subject descriptors of avoiding some duplication of effort for the beginning phases of the SDI project, and of hastening somewhat the advent of improved ERIC services. It has the disadvantages of increasing the level of simultaneous staffing and funding requirements, of increasing the requirements for coordination between the various tasks, and of not being the fastest total solution.

The third approach is to start all three tasks essentially simultaneously. This has the advantages of creating the shortest time-line to improvement of ERIC services and of admitting the potential of cross-fertilization in all directions from all three tasks. It has the disadvantages of requiring the maximum level of simultaneous staffing and funding and the maximum level of requirements for excellent coordination between the three tasks in order to reap the full benefits of cross-fertilization.

Whichever of the three approaches is opted (or if some subset of the recommendations are implemented), every effort should be made to maintain close coordination among the efforts and a rapid cross-feeding of results as they are obtained.

APPENDIX A

CONCEPTUAL DIMENSIONS DEVELOPED DURING THE INITIAL CLUSTER ANALYSIS

INTRODUCTION

As indicated in the Project Overview, there was a considerable shift in direction some time after the project had been underway. One result of this shift was to do away with the conceptual dimensions, that were to be empirically based on the content of the ERIC File, as the basis for the file partitions. The approach taken had been to develop a co-occurrence matrix in which the co-occurrence coefficient for frequently occurring descriptors was determined. The rationale underlying this approach is that clusters of terms that co-occur to a high degree reflect stable dimensions and that these dimensions may later be shaped by user needs into candidate file partitions. Although the approach was discarded following the redirection of the project, the initial work of developing the clusters from the project descriptors was completed. The results of that work are of interest in terms of certain implications for USOE with respect to the future use of ERIC. Therefore, the results are summarized here.

TECHNIQUES

The following is a brief description of the techniques that were used in performing the cluster analysis. The ERIC descriptors were stripped from the ERIC tapes to obtain a file consisting of the descriptors for each entry in ERIC. The terms were listed in rank order of frequency of occurrence and the low occurring terms were eliminated on the basis that they would not likely form stable relations with other terms because of their low occurrence. A co-occurrence matrix was derived[1] and analyzed with a computer-based cluster analysis technique known as HICLUS. This resulted in a computer printout in which the terms that co-occurred are grouped together and the coefficients of co-occurrence are presented. A portion of that cluster analysis output is shown in Figure A-1.

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1. Complete cluster analysis printout submitted separately to USOE.

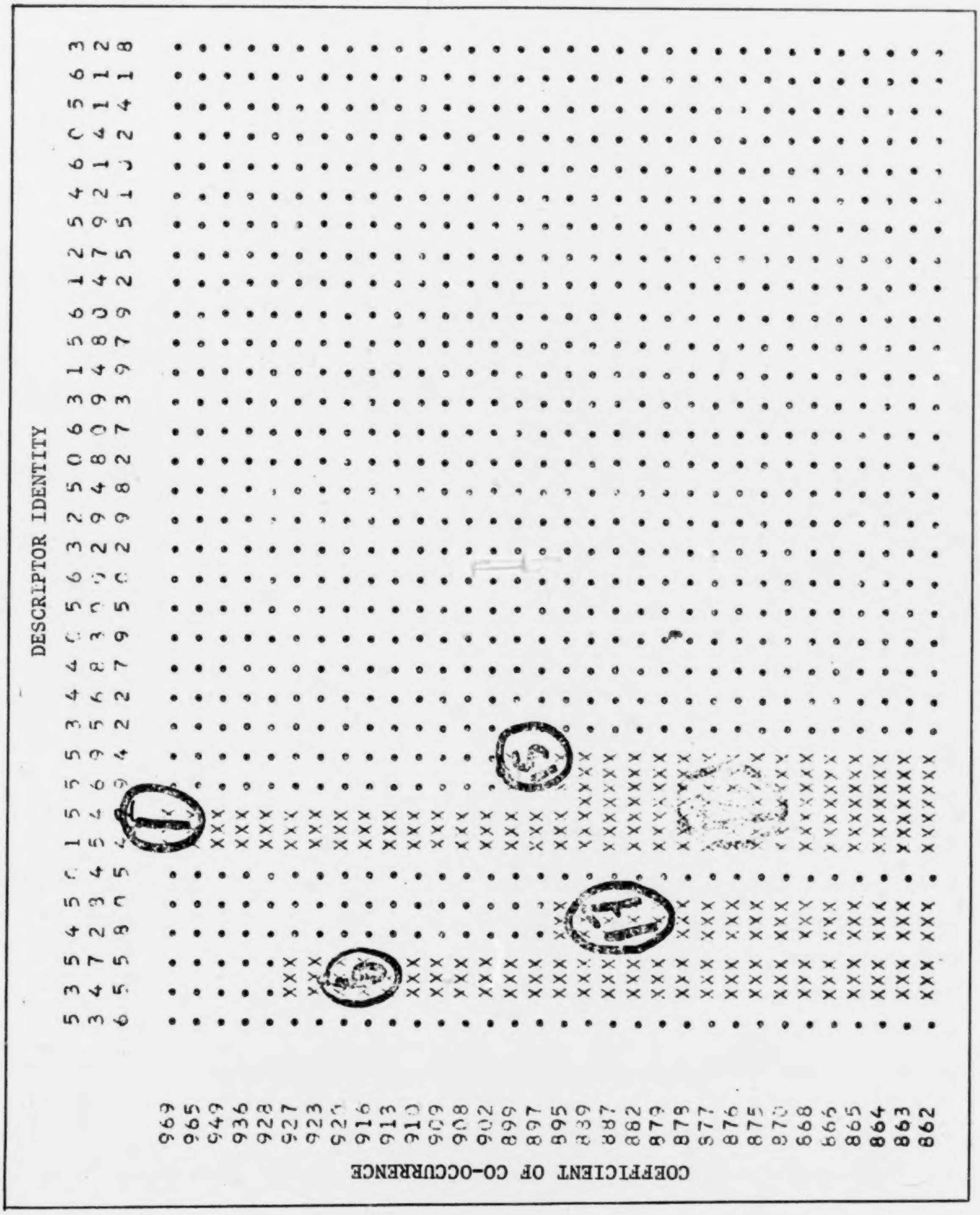


Figure A-1. Portion of Cluster Analysis Printout.

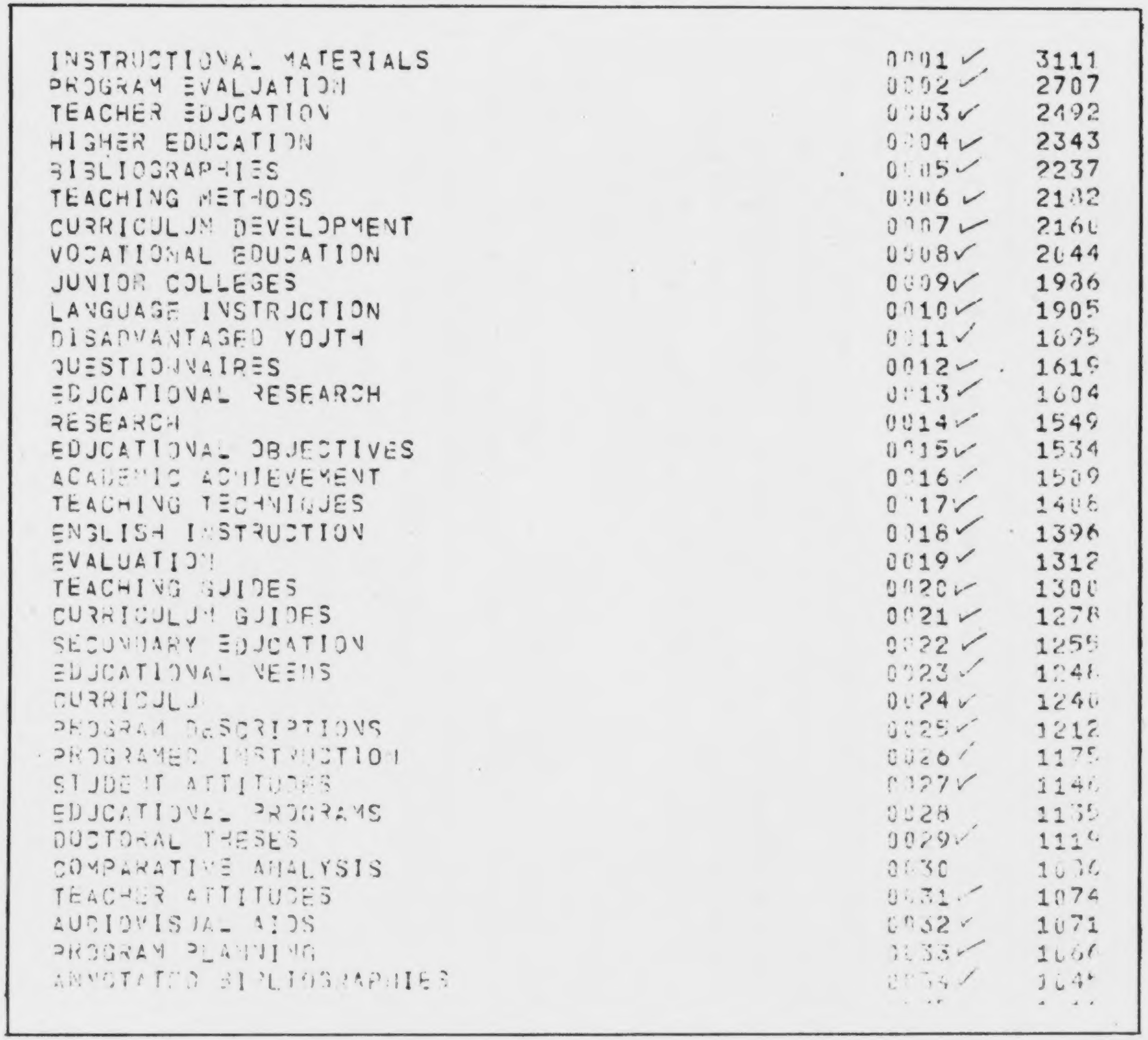
The coefficients of co-occurrence are presented in the ordinate. These approximate Pearson Product Moment Correlation Coefficients. While not exactly the same, they may nevertheless be interpreted the same way. Thus, 969, the top number listed, is a coefficient of co-occurrence that approximates a correlation of .969. It says that term number 154 and 542 associate with each other at the .969 level. Similarly, terms 345 and 575 associate with each other at the .927 level. The cluster analysis was performed on a matrix of 750 terms. The detailed results are available.

The analysis was performed on the existing file content. Therefore, it reflects usage by indexers following clearinghouse practices and does not necessarily indicate document demand or user interest. However, one would presuppose some relation to user interest and document demand, since presumably the clearinghouses and policies were established to meet such requirements.

RESULTS

There were two products that resulted from the cluster analysis work: The first was the frequency of occurrence listing (Figure A-2) in which the frequencies of occurrence of descriptor terms are listed in rank order. The second product was the results of the cluster analysis that are presented in Figure A-1. There are three implications related to these products and to the analyses that were performed during this portion of the project. These implications were not explored more fully at the time the cluster analysis was performed, since the area was beyond the scope of the work at that time. Thus, they are presented below in cursory fashion with the thought that they represent areas for further exploration by USOE .

The first implication relates to the fact that a number of terms showed a high degree of co-occurrence with many other terms. These were terms that had a moderate to high frequency of occurrence and co-occurred with a number of other terms at, say, the .5 level. It is suggested that these terms convey very low levels of information and may not assist in any significant way in the search



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INSTRUCTIONAL MATERIALS          0001 ✓   3111
PROGRAM EVALUATION               0002 ✓   2707
TEACHER EDUCATION                0003 ✓   2492
HIGHER EDUCATION                 0004 ✓   2343
BIBLIOGRAPHIES                   0005 ✓   2237
TEACHING METHODS                 0006 ✓   2182
CURRICULUM DEVELOPMENT           0007 ✓   2160
VOCATIONAL EDUCATION             0008 ✓   2044
JUNIOR COLLEGES                  0009 ✓   1936
LANGUAGE INSTRUCTION             0010 ✓   1905
DISADVANTAGED YOUTH              0011 ✓   1695
QUESTIONNAIRES                   0012 ✓   1619
EDUCATIONAL RESEARCH             0013 ✓   1604
RESEARCH                         0014 ✓   1549
EDUCATIONAL OBJECTIVES           0015 ✓   1534
ACADEMIC ACHIEVEMENT             0016 ✓   1509
TEACHING TECHNIQUES              0017 ✓   1406
ENGLISH INSTRUCTION              0018 ✓   1396
EVALUATION                       0019 ✓   1312
TEACHING GUIDES                  0020 ✓   1300
CURRICULUM GUIDES                0021 ✓   1278
SECONDARY EDUCATION              0022 ✓   1259
EDUCATIONAL NEEDS                0023 ✓   1248
CURRICULUM                       0024 ✓   1240
PROGRAM DESCRIPTIONS             0025 ✓   1212
PROGRAMED INSTRUCTION            0026 ✓   1175
STUDENT ATTITUDES                0027 ✓   1146
EDUCATIONAL PROGRAMS             0028     1135
DOCTORAL THESES                  0029 ✓   1119
COMPARATIVE ANALYSIS             0030     1036
TEACHER ATTITUDES                0031 ✓   1074
AUDIOVISUAL AIDS                 0032 ✓   1071
PROGRAM PLANNING                 0033 ✓   1066
ANNOTATED BIBLIOGRAPHIES         0034 ✓   104[illegible]
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Figure A-2. Partial List of Descriptors in Rank Order.

process. We do not know whether this is due to the indiscriminate use of certain terms by indexers (which we suspect) or the lack of more appropriate terms. In a uniterm approach such as now used in ERIC, some of these terms should be merged. In a multifaceted approach, they may be used as modifiers or second-level terms to add fine shades of meaning. However, some may be dropped or merged in the multifaceted approach as well.

The second implication is that the cluster analysis suggests a possibility of reducing the number of terms in the thesaurus. This is true even in the uniterm approach now used in ERIC. That is, the cluster analysis suggests that certain terms are used more or less synonymously and there is little discrimination capability in searching the file as these terms are used. For example, the terms Graduate Study, College Teachers, Undergraduate Study, College Instruction, Universities, Colleges, University Extension, Higher Education, Junior Colleges, Post-Secondary Education College Programs, and Community Colleges are all associated with the term "higher education." While it may not be desirable to eliminate all the terms since some have special meanings that may be desirable to retain in the thesaurus, it is also likely that some of these terms can be dropped from the thesaurus or subsumed in a hierarchical structure if the thesaurus were changed. It appears that there is considerable reason to believe that the thesaurus can be simplified and the number of terms reduced.

The third implication relates to the fact that the indexing instructions currently in use are based on the uniterm approach. An inspection of the descriptors contained in each of the clusters and an inspection of the clusters themselves suggest that there are several dimensions that are used in the ERIC thesaurus. These dimensions cut across several document dimensions such as subject area, document type, or other aspects. The thesaurus and clusters derived from the descriptor terms as used suggest an implicit, multifaceted basis for describing documents in the ERIC file. However, the procedures in use and the structure of the thesaurus preclude this and cause the indexers as well as the users to operate on a uniterm basis. The cluster analysis lends support to the need for a multifaceted approach and suggests some of the dimensions that might be included. For example, the 19 "broad subject areas," as the term was used in the questionnaire, were derived in part from the 101 clusters that resulted from the cluster analysis. These areas could be considered as major categories under which specific topics would be subsumed in a hierarchical system. Also, the cluster analysis indicated that there is a mix of terms in the thesaurus that includes subject terms, process terms, document type terms, and so on. These different types of terms were considered in the questionnaire design. They should be considered in any solution to a multifaceted ERIC system.

APPENDIX B

QUESTIONNAIRE SURVEY PACKAGE

Contents

- Cover letter
- Questionnaire
- Sample of center section
- Followup letter

NATIONAL SURVEY OF EDUCATOR INFORMATION REQUIREMENTS

SPONSORED BY THE U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION

This survey is being conducted under the sponsorship of the U.S. Office of Education to determine the information needs and practices of educators. The information obtained will be used to help make the ERIC (Education Resources Information Center) system more responsive to your needs. We need your assistance to determine those needs. Please help us by completing this questionnaire. We estimate that it will take from 30 to 45 minutes to do so. Your cooperation is greatly appreciated.

Please answer all questions as completely as possible whether or not you are familiar with ERIC. You may use pen or pencil. Your responses will be kept anonymous. When you have completed the questionnaire, please return it in the enclosed, postage-paid envelope by June 23, 1972.

1. What is your primary role? (Please check only one)

( ) Teacher
( ) Student Teacher
( ) Superintendent or Asst. Superintendent
( ) Consultant, Supervisor, or Curriculum Director
( ) Principal or Asst. Principal
( ) Guidance Counselor
( ) Psychologist
( ) Graduate Student
( ) Librarian
( ) School Board Member
( ) Researcher or R&D staff member
( ) State Agency staff
( ) Other (please specify)
____

2. How long have you been in this role? ______________

3. How long have you been in the field of education, in any capacity? ______________________

4. What is the highest level of education that you have attained?

( ) High School Graduate
( ) Some College
( ) Junior College (or AA Degree)
( ) College Graduate
( ) Masters Degree
( ) Doctorate
( ) Other (specify)
____

5. At what level of education do you work? (If there is more than one, please rank 1 & 2.)

( ) Preschool and Kindergarten
( ) Elementary
( ) Junior High School
( ) Senior High School
( ) Junior or community college
( ) Adult Basic Education
( ) Four-year college or university
( ) Research or R&D center
( ) Other (please specify)
____
( ) Not applicable

7. If your primary role is other than teaching, please check your area of responsibility. (Please check only one)

( ) administration
( ) compensatory education
( ) counseling services
( ) curriculum development
( ) instructional materials and library services
( ) psychological services
( ) research and development
( ) tests, measurements and evaluation
( ) Other (please specify)
____
____

8. Do you teach or work in "Special Education"? If so, please check all those with whom you work.

( ) Gifted Children
( ) Physically Handicapped
( ) Mentally Retarded
( ) Emotionally Disturbed
( ) Other (please specify)
____

NOTE: the following items are for teachers, principals, and others who work at a school.

9. How would you describe the ethnic/racial composition of the neighborhood in which your school is located?

( ) Primarily White
( ) Primarily Black
( ) Primarily Spanish-surnamed
( ) Primarily ______________ (specify other)
( ) Evenly balanced, two or more groups

10. How would you describe the family socio-economic level of the majority of students with whom you have regular contact?

[illegible] June 29, 1972.

1. [illegible]

- ( ) Teacher
- ( ) Student Teacher
- ( ) Superintendent, Asst Supt, Director
- ( ) Curriculum Supervisor, Program Director
- ( ) Principal or Asst Principal
- ( ) Guidance Counselor
- ( ) Psychologist
- ( ) [illegible]
- ( ) [illegible]
- ( ) School Board Member
- ( ) Researcher or R&D staff member
- ( ) State Agency staff
- ( ) Other (please specify)

____

2. How long have you been in this role? ______________

3. How long have you been in the field of education, in any capacity? ______________________

4. What is the highest level of education that you have attained?

- ( ) High School Graduate
- ( ) Some College
- ( ) Junior College (or AA Degree)
- ( ) College Graduate
- ( ) Masters Degree
- ( ) Doctorate
- ( ) Other (specify)

____

5. At what level of education do you work? (If there is more than one, please rank 1 & 2.)

- ( ) Preschool and Kindergarten
- ( ) Elementary
- ( ) Junior High School
- ( ) Senior High School
- ( ) Junior or community college
- ( ) Adult Basic Education
- ( ) Four-year college or university
- ( ) Research or R&D center
- ( ) Other (please specify)

____

- ( ) Not applicable

6. If you are a teacher, what subject do you primarily teach? (Please check only one.)

- ( ) agriculture
- ( ) bilingual education
- ( ) business education
- ( ) elementary education
- ( ) English
- ( ) fine arts
- ( ) foreign languages
- ( ) vocational and technical education
- ( ) home economics
- ( ) mathematics
- ( ) physical education and health
- ( ) reading
- ( ) science
- ( ) social studies/social science
- ( ) Other (please specify)

____

7. [illegible]

- ( ) administration
- ( ) compensatory education
- ( ) counseling services
- ( ) curriculum development
- ( ) instructional materials and library services
- ( ) psychological services
- ( ) research and development
- ( ) testing, measurement, evaluation
- ( ) Other (please specify)

____

____

8. Do you teach or work in "Special Education"? If so, please check all those with which you work.

- ( ) Gifted Children
- ( ) Physically Handicapped
- ( ) Mentally Retarded
- ( ) Emotionally Disturbed
- ( ) Other (please specify)

____

NOTE: the following items are for teachers, principals, and others who work at a school.

9. How would you describe the ethnic/racial composition of the neighborhood in which your school is located?

- ( ) Primarily White
- ( ) Primarily Black
- ( ) Primarily Spanish-surnamed
- ( ) Primarily ______________ (specify other)
- ( ) Evenly balanced, two or more groups

10. How would you describe the family socio-economic level of the majority of students with whom you have regular contact?

- ( ) Upper Income
- ( ) Middle Income
- ( ) Low Income
- ( ) Poverty
- ( ) Evenly balanced across more than one level

GO ON TO ITEM 11, PAGE 2 ⇨

PAGE 1

PAGE 2

A SAMPLE OF PAGES 2 A
TO ILLUSTRATE HOW THES
WHEN PROPERLY C

Check for Interest ↓ Rank ↓

11. Listed below are some broad subject areas of interest to educators. Please check all that are of interest to you in your primary educational role

( ) ____ A. ADMINISTRATIVE AGENCIES (e.g., School Boards, District Offices)

( ) ____ B. BUDGET AND FINANCE (e.g., Financial Policy, Salaries)

( ) ____ C. BUSINESS AND VOCATIONAL EDUCATION (e.g., Agricultural Education, Industrial Arts)

( ) ____ D. CLASSROOM SUBJECTS (e.g., Mathematics, Physical Education)

( ) ____ E. COMMUNITY PUBLIC INTERACTION (e.g., Community Programs, Parent Participation)

( ) ____ F. GOVERNMENT PROGRAMS AND EDUCATION LEGISLATION (e.g., Head Start, State Aid)

( ) ____ G. INDIVIDUAL GROWTH AND DEVELOPMENT (e.g., Intelligence, Learning Processes)

( ) ____ H. INFORMATION SCIENCES (e.g., Information Centers, Information Processing)

( ) ____ I. INSTRUCTIONAL METHODS (e.g., Open Classrooms, Programmed Instruction)

( ) ____ J. LIBRARIES AND LIBRARY OPERATIONS (e.g., Library Services, Collections)

____ K. MANAGEMENT (e.g., Systems Analysis, Program Planning)

( ) ____ L. PERSONNEL POLICY AND OPERATIONS (e.g., Paraprofessionals, Teachers)

( ) ____ M. READING (e.g., Reading Readiness, Remedial Reading)

( ) ____ N. RURAL URBAN EDUCATION (e.g., Small Schools, Inner City)

( ) ____ O. SCHOOL FACILITIES AND OPERATIONS (e.g., Attendance, Equipment)

( ) ____ P. STUDENT DEMOGRAPHY (e.g., Population Trends, Cultural Background)

( ) ____ Q. SUPPORT SERVICES (e.g., Counseling, Health Services)

( ) ____ R. TEACHER EDUCATION (e.g., Student Teaching, Inservice Education)

( ) ____ S. TESTING AND EVALUATION (e.g., Aptitude Tests, Teacher Evaluation)

( ) ____ T. OTHER (specify) ____________________

12. Next, rank only the subjects you have checked by placing a "1" before the subject of greatest interest to you in the list above, a "2" before the subject of next greatest interest, and so on.

13. Now, enter the letters of the subject areas you ranked 1-5 in the spaces provided below. Then fold the bottom page down and answer questions A through D (center of page) for each subject area by placing an X in the appropriate box below each subject letter.

ENTER SUBJECT LETTERS ➡ RANK 1 ______ RANK 2 ______ RANK 3 ______ RANK 4 ______ RANK 5 ______

⇩

ANSWER QUESTIONS A THROUG

A. WHAT TYPE OF DOCUMENT DO YO

( ) ( ) ( ) ( ) ( ) • References or summaries of do

13. Now enter the letters of the subject areas you ranked 1-5 in the spaces provided below.
Then fold the bottom page down and answer questions A through D (center of page) for each subject area by placing
an X in the appropriate box below each subject letter.

ENTER SUBJECT LETTERS ➡ RANK 1 ______ RANK 2 ______ RANK 3 ______ RANK 4 ______ RANK 5 ______

ANSWER QUESTIONS A THROUGH D BE

A. WHAT TYPE OF DOCUMENT DO YOU GENE

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • References or summaries of documents

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Practical curriculum materials (including
on how to do something)

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Technical reports (including conference re
the methodology and findings of research

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Theoretical papers (including journal arti
a conceptulization or philosophy

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Studies of actual cases that give concrete

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Reviews or syntheses of material or hand-

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Lists of resources, including people, faci

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Raw or distilled data, such as statistical d

B. GENERALLY, HOW INTENSE IS YOUR NEED
one per column)

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Very high . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Moderate . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Slight . . . .

C. WHAT ARE YOUR PRINCIPAL SOURCES OF

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Books

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Colleagues or Supervisors

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Conferences, Symposia, Workshops

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Educational Information Centers

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • ERIC . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Journal Articles . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Local Curriculum Materials . . . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Newsletters, Bulletins, Announcements

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Technical Reports . . . .

D. GENERALLY, HOW FREQUENTLY DO YOU
per column)

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Daily . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Weekly . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Monthly . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Quarterly . . . .

( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . ( ) . . . . • Less often . . . .

PLEASE CHECK TO BE SURE THAT ALL THE QUESTIONS ARE

GO ON TO QUESTION 17 BY FOLDING TH

Explaining

16. Now enter the numbers of the uses you ranked 1-3 in the spaces provided below. Then answer questions A through D (center of page) for each use or application by placing an X in the appropriate box below each use number.

ENTER USE NUMBERS ➡ RANK 1 _____ RANK 2 _____ RANK 3 _____

NSWER QUESTIONS A THROUGH D BELOW FOR BOTH SUBJECTS AND USES

AT TYPE OF DOCUMENT DO YOU GENERALLY NEED? (Check all that apply)

References or summaries of documents (including bibliographies and abstracts)	( )	( )	( )
Practical curriculum materials (including guides and manuals that give directions on how to do something)	( )	( )	( )
Technical reports (including conference reports, dissertations, etc.) dealing with the methodology and findings of research investigations	( )	( )	( )
Theoretical papers (including journal articles, dissertations, etc.) dealing with a conceptualization or philosophy	( )	( )	( )
Studies of actual cases that give concrete examples in support of educational principles	( )	( )	( )
Reviews or syntheses of material or non-technical versions of technical reports	( )	( )	( )
Lists of resources, including people, facilities, publishers, etc.	( )	( )	( )
Raw or distilled data such as statistical data, administrative data, etc.	( )	( )	( )

NERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION? (Check one per column)

Very high	( )	( )	( )
Moderate	( )	( )	( )
Slight	( )	( )	( )

AT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION? (Check all that apply)

Books	( )	( )	( )
Colleagues or Supervisors	( )	( )	( )
Conferences, Symposia, Workshops	( )	( )	( )
Educational Information Centers	( )	( )	( )
ERIC	( )	( )	( )
Journal Articles	( )	( )	( )
Local Curriculum Materials	( )	( )	( )
Newsletters, Bulletins, Announcements	( )	( )	( )
Technical Reports	( )	( )	( )

NERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION? (Check one per column)

Daily	( )	( )	( )
Weekly	( )	( )	( )
Monthly	( )	( )	( )
Quarterly	( )	( )	( )
Less often	( )	( )	( )

E THAT ALL THE QUESTIONS ARE ANSWERED FOR EACH SUBJECT OR USE.

TO QUESTION 17 BY FOLDING THIS PAGE UP

PAGE 3

·131

MPLE OF PAGES 2 AND 3 IS ENCLOSED
USTRATE HOW THESE PAGES MIGHT LOOK
WHEN PROPERLY COMPLETED

	Check for Interest	Rank
nterest to		
gram Planning	( )	____
OPERATIONS achers)	( )	____
Remedial Reading)	( )	____
ON City)	( )	____
OPERATIONS ent)	( )	____
	( )	____
Cultural)	( )	____
	( )	____
Services)	( )	____
	( )	____
service		
ION cher Evaluation)		

14. Listed below are some uses or applications that educators have for information. Although the subject of the information may determine its use, please check all the uses that you generally have for information in your primary educational role.

1. Preparing or planning classroom materials or curricula; improving teaching methods; evaluating students, or preparing other materials related to teaching
2. Performing administrative functions, including the operation of physical facilities, the management of resources, budgeting and accounting, and developing policy
3. Maintaining current awareness and proficiency or acquiring new knowledge, including additional training in education
4. Providing for or performing preservice or inservice teacher training
5. Providing non-teaching services for students, including counseling, guidance, health and library services
6. Performing original research, including the preparation of dissertations and reports on such research
7. Preparing articles, reports, speeches, etc. not included in 6 above
8. Developing educational products, such as textbooks, films, lab kits, manuals, etc.
9. Functioning as an information resource and/or consultant
10. Other (Please explain) ____________________

n the list

15. Next, rank only the uses you have checked by placing a "1" before the "use" that you most commonly have for information in your educational role, a "2" before the use that is next most common, and so on.

cing

16. Now, enter the numbers of the uses you ranked 1-3 in the spaces provided below. Then answer questions A through D (center of page) for each use or application by placing an X in the appropriate box below each use number.

ENTER USE NUMBERS	RANK 1	RANK 2	RANK 3
	____	____	____

QUESTIONS A THROUGH D BELOW FOR BOTH SUBJECTS AND USES

E OF DOCUMENT DO YOU GENERALLY NEED? (Check all that apply)

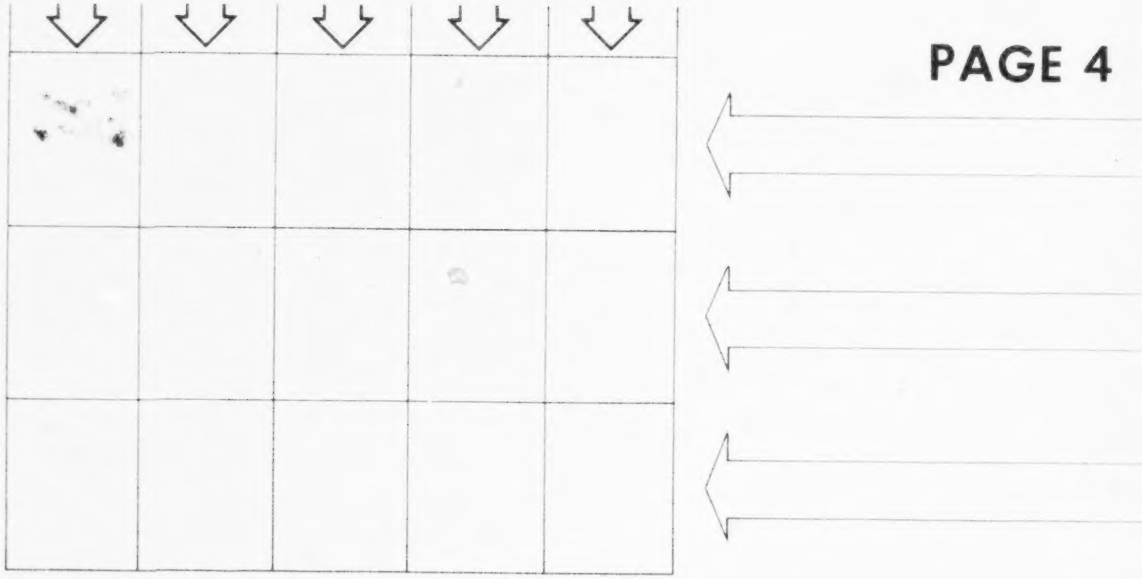
es or summaries of documents, including bibliographies and abstracts . . . . ( ) . . . . ( ) . . . . ( )

l curriculum materials (including guides and manuals that give directions . . . . ( ) . . . . ( ) . . . . ( )
o do something)

l reports (including conference reports, dissertations, etc.) dealing with . . . . ( ) . . . . ( ) . . . . ( )
ology and findings of research investigations

PAGE 4

PLEASE FOLD
THIS PAGE
DOWN TO
COMPLETE
QUESTIONS
13 AND 16.



17. In the table above, the subjects you have choosen appear across the top and the uses you have choosen are indicated at the right side. Please place a check mark in each box where your need for subject and use coincide.

18. Please look at the table again and circle the check marks that you made that represent the subject use areas for which you now receive the information that you want.

WHEN YOU HAVE COMPLETED ITEM 18.
GO ON TO ITEM 19 ON PAGE 5.

19. Have you ever used ERIC products or services? ( ) Yes ( ) No
If "no", why not?

( ) Unaware of ERIC
( ) ERIC materials not readily available or difficult to obtain
( ) ERIC materials of little use to me
( ) Other (Please specify) ______________________________

20. If you answered number 19 "yes", please check those ERIC products and/or services that you have used.

( ) Research in Education (RIE)
( ) Current Index to Journals in Education (CIJE)
( ) Bibliographies
( ) Bulletins
( ) Demand Searches
( ) State-of-the-art Reviews
( ) Other (Please specify) ______________________________

21. Regardless of whether or not you use ERIC, please describe any products or services you would find useful in obtaining education information. Be as specific as possible. For example, rather than "More information about new teaching methods", you might say "Abstracts and newsletter-type announcements about structured schools".

____

____

____

____

____

____

____

Bibliographies

Bulletins

Demand Searches

State-of-the-art Reviews

Other (Please specify): ____________

21. Regardless of whether or not you use ERIC, please describe the [illegible] in obtaining education information. Be as specific as possible. For example, rather than "More information about new teaching methods", you might say "Abstracts and newsletter type announcements about structured schools."

____

____

____

____

____

____

____

THANK YOU VERY MUCH FOR YOUR COOPERATION!

Please Return this Questionnaire to:
System Development Corporation
2500 Colorado Avenue
Santa Monica, California 90406

[COVER LETTER]

SDC SYSTEM DEVELOPMENT CORPORATION
2500 Colorado Avenue, Santa Monica, California 90406

June 5, 1972

Dear Educator:

The U.S. Office of Education is studying ways in which it can better provide information to educators through its Educational Resources Information Center (ERIC). As you may know, ERIC is a service provided to educators by USOE to make an extensive collection of education information available to educators. Much of that information has been oriented towards the needs of researchers and persons in higher education. To provide information more relevant and useful to all educators, USOE has contracted with System Development Corporation (SDC) to develop a plan to reorganize the collection.

In order to determine the needs and interests of educational practitioners, SDC is asking a broad spectrum of educators to complete the brief questionnaire that is enclosed. Your cooperation in completing this questionnaire is extremely important, regardless of whether or not you use or are familiar with ERIC. The questionnaire should take only about 30 to 45 minutes of your time, and your cooperation will be much appreciated.

Please accept our apology for sending this to you at the end of the school year. The data are needed by July for USOE's planning purposes and we were not able to prepare the questionnaire earlier. If you would like a summary report of the findings of this study, please write you name and address on the back page of the questionnaire.

When you have completed the questionnaire, please return it in the enclosed postage-paid envelope by June 19, 1972 (disregard the June 9 date printed on the questionnaire).

Sincerely,

Herbert R. Seiden

Herbert R. Seiden, Ph.D.
Project Director
ERIC File Partition Project

HRS:cr
Enclosure

[FOLLOWUP LETTER]

SDC SYSTEM DEVELOPMENT CORPORATION
2500 Colorado Avenue, Santa Monica, California 90406

July 7, 1972

Dear Educator:

Your help is needed!

A few weeks ago we mailed you a questionnaire designed to determine your needs for information and your use of the ERIC system. Since you are part of a specially selected sample, your response is extremely important. In order to obtain a representative sample of educators, we randomly selected a limited number of individuals by name and position from listings provided by selected school districts. Your response is needed to ensure that all educators are properly represented in the analysis.

If you have already completed the questionnaire that we sent you earlier, please accept our thanks, as well as our apologies for writing to you again. But if you have not returned the questionnaire, won't you please take the time now to help us? A duplicate copy of the questionnaire is enclosed, together with a prepaid, self-addressed envelope.

Thank you again for your cooperation.

Sincerely,

Herbert R. Seiden

Herbert R. Seiden, Ph.D.
Project Director
ERIC File Partition Project

HRS:dh
Enclosure

PAGE 2

SAMPLE

11. Listed below are some broad subject areas of interest to educators. Please check all that are of interest to you in your primary educational role.

Check for Interest	Rank	
☐		A. ADMINISTRATIVE AGENCIES (e.g., School Boards, District Offices)
☐		B. BUDGET AND FINANCE (e.g., Financial Policy, Salaries)
☐		C. BUSINESS AND VOCATIONAL EDUCATION (e.g., Agricultural Education, Industrial Arts)
☒	1	D. CLASSROOM SUBJECTS (e.g., Mathematics, Physical Education)
☒	4	E. COMMUNITY/PUBLIC INTERACTION (e.g., Community Programs, Parent Participation)
☐		F. GOVERNMENT PROGRAMS AND EDUCATION LEGISLATION (e.g., Head Start, State Aid)
☒	5	G. INDIVIDUAL GROWTH AND DEVELOPMENT (e.g., Intelligence, Learning Processes)
☐		H. INFORMATION SCIENCES (e.g., Information Centers, Information Processing)
☒	2	I. INSTRUCTIONAL METHODS (e.g., Open Classrooms, Programmed Instruction)
☐		J. LIBRARIES AND LIBRARY OPERATIONS (e.g., Library Services, Collections)
☐		K. MANAGEMENT (e.g., Systems Analysis, Program Planning)
☒	6	L. PERSONNEL POLICY AND OPERATIONS (e.g., Paraprofessionals, Teachers)
☐		M. READING (e.g., Reading Readiness, Remedial Reading)
☒	7	N. RURAL/URBAN EDUCATION (e.g., Small Schools, Inner City)
☐		O. SCHOOL FACILITIES AND OPERATIONS (e.g., Attendance, Equipment)
☐		P. STUDENT DEMOGRAPHY (e.g., Population Trends, Cultural Background)
☐		Q. SUPPORT SERVICES (e.g., Counseling, Health Services)
☐		R. TEACHER EDUCATION (e.g., Student Teaching, Inservice Education)
☒	3	S. TESTING AND EVALUATION (e.g., Aptitude Tests, Teacher Evaluation)
☐		T. OTHER (specify)________________

12. Next, rank only the subjects you have checked by placing a "1" before the subject of greatest interest to you in the list above, a "2" before the subject of next greatest interest, and so on.

13. Now, enter the letters of the subject areas you ranked 1-5 in the spaces provided below. Then fold the bottom page down and answer questions A through D (center of page) for each subject area by placing an X in the appropriate box below each subject letter.

ENTER SUBJECT LETTERS

RANK 1	RANK 2	RANK 3	RANK 4	RANK 5
D	I	S	E	G

Check for Interest	Rank	
		14. Listed below are s of the information information in your
☒	1	1. Preparing or pl students, or pre
☐		2. Performing adm of resources, bu
☒	2	3. Maintaining curr training in educ
☒	4	4. Providing for or
☐		5. Providing non-te services
☐		6. Performing origi
☐		7. Preparing articl
☐		8. Developing educ
☐		9. Functioning as
☒	3	10. Other (Please e

15. Next, rank only the uses you have chec in your educational role, a "2" before

16. Now, enter the numbers of the uses you (center of page) for each use or applicat

ENTER USE NUMB

ANSWER QUESTIONS A THROUGH D BELOW FOR BOTH SUBJECTS AND USES

A. WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED? (Check all that apply)

☒	☒	☐	☒	☒	• References or summaries of documents, including bibliographies and abstracts
☒	☒	☒	☐	☐	• Practical curriculum materials (including guides and manuals that give directions on how to do something)
☒	☐	☐	☐	☐	• Technical reports (including conference reports, dissertations, etc.) dealing with the methodology and findings of research investigations
☒	☐	☐	☐	☐	• Theoretical papers (including journal articles, dissertations, etc.) dealing with a conceptulization or philosophy
☐	☒	☐	☐	☐	• Studies of actual cases that give concrete examples in support of educational principles
☒	☐	☒	☒	☒	• Reviews or syntheses of material or non-technical versions of technical reports
☐	☒	☐	☒	☐	• Lists of resources, including people, facilities, publishers, etc.
☐	☐	☐	☐	☐	• Raw or distilled data, such as statistical data, administrative data, etc.

(e.g., Mathematics, Physical Education)

x 4 E. COMMUNITY/PUBLIC INTERACTION (e.g., Community Programs, Parent Participation)

( ) ___ F. GOVERNMENT PROGRAMS AND EDUCATION LEGISLATION (e.g., Head Start, State Aid)

x 5 G. INDIVIDUAL GROWTH AND DEVELOPMENT (e.g., Intelligence, Learning Processes)

( ) ___ H. INFORMATION SCIENCES (e.g., Information Centers, Information Processing)

x 2 I. INSTRUCTIONAL METHODS (e.g., Open Classrooms, Programmed Instruction)

( ) ___ J. LIBRARIES AND LIBRARY OPERATIONS (e.g., Library Services, Collections)

( ) ___ O. SCHOOL FACILITIES AND OPERATIONS (e.g., Attendance, Equipment)

( ) ___ P. STUDENT DEMOGRAPHY (e.g., Population Trends, Cultural Background)

( ) ___ Q. SUPPORT SERVICES (e.g., Counseling, Health Services)

( ) ___ R. TEACHER EDUCATION (e.g., Student Teaching, Inservice Education)

x 3 S. TESTING AND EVALUATION (e.g., Aptitude Tests, Teacher Evaluation)

( ) ___ T. OTHER (specify)________________

( ) ___ 5. Providing nonteaching or services

( ) ___ 6. Performing original research

( ) ___ 7. Preparing articles, reports,

( ) ___ 8. Developing educational prod

( ) ___ 9. Functioning as an informati

x 3 10. Other (Please explain) C

12. Next, rank only the subjects you have checked by placing a "1" before the subject of greatest interest to you in the list above, a "2" before the subject of next greatest interest, and so on.

15. Next, rank only the uses you have checked by plac in your educational role, a "2" before the use that

13. Now, enter the letters of the subject areas you ranked 1-5 in the spaces provided below. Then fold the bottom page down and answer questions A through D (center of page) for each subject area by placing an X in the appropriate box below each subject letter.

16. Now, enter the numbers of the uses you ranked 1-3 (center of page) for each use or application by plac

ENTER SUBJECT LETTERS ➡

RANK 1	RANK 2	RANK 3	RANK 4	RANK 5
D	I	S	E	G

ENTER USE NUMBERS ➡

ANSWER QUESTIONS A THROUGH D BELOW FOR BOTH SUBJECTS AND USES

A. WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED? (Check all that apply)

☒	☒	( )	☒	☒	• References or summaries of documents, including bibliographies and abstracts
☒	☒	☒	( )	( )	• Practical curriculum materials (including guides and manuals that give directions on how to do something)
☒	( )	( )	( )	( )	• Technical reports (including conference reports, dissertations, etc.) dealing with the methodology and findings of research investigations
☒	( )	( )	( )	( )	• Theoretical papers (including journal articles, dissertations, etc.) dealing with a conceptulization or philosophy
( )	☒	( )	( )	( )	• Studies of actual cases that give concrete examples in support of educational principles
☒	( )	☒	☒	☒	• Reviews or syntheses of material or non-technical versions of technical reports
( )	☒	( )	☒	( )	• Lists of resources, including people, facilities, publishers, etc.
( )	( )	( )	( )	( )	• Raw or distilled data, such as statistical data, administrative data, etc.

B. GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION? (Check one per column)

☒	☒	( )	( )	( )	• Very high
( )	( )	☒	☒	( )	• Moderate
( )	( )	( )	( )	☒	• Slight

C. WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION? (Check all that apply)

☒	☒	☒	( )	☒	• Books
☒	☒	( )	☒	( )	• Colleagues or Supervisors
☒	☒	( )	( )	( )	• Conferences, Symposia, Workshops
( )	( )	( )	( )	( )	• Educational Information Centers
( )	( )	( )	( )	( )	• ERIC
☒	☒	☒	( )	( )	• Journal Articles
☒	( )	( )	( )	( )	• Local Curriculum Materials
☒	( )	( )	( )	( )	• Newsletters, Bulletins, Announcements
( )	( )	( )	( )	( )	• Technical Reports

D. GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION? (Check one per column)

( )	( )	( )	( )	( )	• Daily
☒	( )	( )	( )	( )	• Weekly
( )	☒	( )	☒	( )	• Monthly
( )	( )	☒	( )	( )	• Quarterly
( )	( )	( )	( )	☒	• Less often

PLEASE CHECK TO BE SURE THAT ALL THE QUESTIONS ARE ANSWERED FOR EACH SUBJECT OR USE

GO ON TO QUESTION 17 BY FOLDING THIS PAGE UP

SAMPLE

to educators. Please check all that are of interest to

( ) ____ K. MANAGEMENT (e.g., Systems Analysis, Program Planning)

x 6 L. PERSONNEL POLICY AND OPERATIONS (e.g., Paraprofessionals, Teachers)

( ) ____ M. READING (e.g., Reading Readiness, Remedial Reading)

x 7 N. RURAL/URBAN EDUCATION (e.g., Small Schools, Inner City)

( ) ____ O. SCHOOL FACILITIES AND OPERATIONS (e.g., Attendance, Equipment)

( ) ____ P. STUDENT DEMOGRAPHY (e.g., Population Trends, Cultural Background)

( ) ____ Q. SUPPORT SERVICES (e.g., Counseling, Health Services)

( ) ____ R. TEACHER EDUCATION (e.g., Student Teaching, Inservice Education)

x 3 S. TESTING AND EVALUATION (e.g., Aptitude Tests, Teacher Evaluation)

( ) ____ T. OTHER (specify)____________________

fore the subject of greatest interest to you in the list

ces provided below.
center of page) for each subject area by placing

14. Listed below are some uses or applications that educators have for information. Although the subject of the information may determine its use, please check all the uses that you generally have for information in your primary educational role.

Check for Interest	Rank	
x	1	1. Preparing or planning classroom materials or curricula, improving teaching methods, evaluating students; or preparing other materials related to teaching
( )	____	2. Performing administrative functions, including the operation of physical facilities, the management of resources, budgeting and accounting, and developing policy
x	2	3. Maintaining current awareness and proficiency or acquiring new knowledge, including additional training in education
x	4	4. Providing for or performing preservice or inservice teacher training
( )	____	5. Providing non-teaching services for students, including counseling, guidance, health and library services
( )	____	6. Performing original research, including the preparation of dissertations and reports on such research
( )	____	7. Preparing articles, reports, speeches, etc. not included in 6 above
( )	____	8. Developing educational products, such as textbooks, films, lab kits, manuals, etc.
( )	____	9. Functioning as an information resource and/or consultant
x	3	10. Other (Please explain) COMMUNITY LIIAISON

15. Next, rank only the uses you have checked by placing a "1" before the "use" that you most commonly have for information in your educational role, a "2" before the use that is next most common, and so on.

16. Now, enter the numbers of the uses you ranked 1-3 in the spaces provided below. Then answer questions A through D (center of page) for each use or application by placing an X in the appropriate box below each use number.

ENTER USE NUMBERS

RANK 4	RANK 5		RANK 1	RANK 2	RANK 3
E	G		1	3	10
		ANSWER QUESTIONS A THROUGH D BELOW FOR BOTH SUBJECTS AND USES			
		A. WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED? (Check all that apply)			
☒	☒	• References or summaries of documents, including bibliographies and abstracts	☒	☒	☒
( )	( )	• Practical curriculum materials (including guides and manuals that give directions on how to do something)	☒	☒	( )
( )	( )	• Technical reports (including conference reports, dissertations, etc.) dealing with the methodology and findings of research investigations	( )	( )	( )
( )	( )	• Theoretical papers (including journal articles, dissertations, etc.) dealing with a conceptulization or philosophy	( )	( )	( )
( )	( )	• Studies of actual cases that give concrete examples in support of educational principles	☒	( )	( )
☒	☒	• Reviews or syntheses of material or non-technical versions of technical reports	☒	☒	☒
☒	( )	• Lists of resources, including people, facilities, publishers, etc.	☒	☒	☒
( )	( )	• Raw or distilled data, such as statistical data, administrative data, etc.	( )	( )	( )
		B. GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION? (Check one per column)			
( )	( )	• Very high	☒	☒	( )
☒	( )	• Moderate	( )	( )	☒
( )	☒	• Slight	( )	( )	( )
		C. WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION? (Check all that apply)			
( )	☒	• Books	☒	( )	( )

…ROGRAMS AND
…GISLATION
…, State Aid)

…ROWTH AND DEVELOPMENT
…e, Learning Processes)

… SCIENCES
…on Centers, Information

…AL METHODS
…ssrooms, Programmed

…ND LIBRARY OPERATIONS
…Services, Collections)

(e.g., Population Trends, Cultural
Background)

☐ ____ Q. SUPPORT SERVICES
(e.g., Counseling, Health Services)

☐ ____ R. TEACHER EDUCATION
(e.g., Student Teaching, Inservice Education)

x 3 S. TESTING AND EVALUATION
(e.g., Aptitude Tests, Teacher Evaluation)

☐ ____ T. OTHER (specify)________________

____ 7. Preparing articles, reports, speeches, etc. not included in above

☐ ____ 8. Developing educational products, such as textbooks, films, lab kits, manuals, etc.

☐ ____ 9. Functioning as an information resource and/or consultant

x 3 10. Other (Please explain) COMMUNITY LIIAISON

…ave checked by placing a "1" before the subject of greatest interest to you in the list
…f next greatest interest, and so on.

15. Next, rank only the uses you have checked by placing a "1" before the "use" that you most commonly have for information in your educational role, a "2" before the use that is next most common, and so on.

…t areas you ranked 1-5 in the spaces provided below.
…d answer questions A through D (center of page) for each subject area by placing
…each subject letter.

16. Now, enter the numbers of the uses you ranked 1-3 in the spaces provided below. Then answer questions A through D (center of page) for each use or application by placing an X in the appropriate box below each use number.

RANK 2: I RANK 3: S RANK 4: E RANK 5: G

ENTER USE NUMBERS ➧ RANK 1: 1 RANK 2: 3 RANK 3: 10

ANSWER QUESTIONS A THROUGH D BELOW FOR BOTH SUBJECTS AND USES

RANK 2 I	RANK 3 S	RANK 4 E	RANK 5 G		RANK 1 1	RANK 2 3	RANK 3 10
				A. WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED? (Check all that apply)			
☒	☐	☒	☒	• References or summaries of documents, including bibliographies and abstracts	☒	☒	☒
☒	☒	☐	☐	• Practical curriculum materials (including guides and manuals that give directions on how to do something)	☒	☒	☐
☐	☐	☐	☐	• Technical reports (including conference reports, dissertations, etc.) dealing with the methodology and findings of research investigations	☐	☐	☐
☐	☐	☐	☐	• Theoretical papers (including journal articles, dissertations, etc.) dealing with a conceptulization or philosophy	☐	☐	☐
☒	☐	☐	☐	• Studies of actual cases that give concrete examples in support of educational principles	☒	☐	☐
☐	☒	☒	☒	• Reviews or syntheses of material or non-technical versions of technical reports	☒	☒	☒
☒	☐	☒	☐	• Lists of resources, including people, facilities, publishers, etc.	☒	☒	☒
☐	☐	☐	☐	• Raw or distilled data, such as statistical data, administrative data, etc.	☐	☐	☐
				B. GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION? (Check one per column)			
☒	☐	☐	☐	• Very high	☒	☒	☐
☐	☒	☒	☐	• Moderate	☐	☐	☒
☐	☐	☐	☒	• Slight	☐	☐	☐
				C. WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION? (Check all that apply)			
☒	☒	☐	☒	• Books	☒	☐	☐
☒	☐	☒	☐	• Colleagues or Supervisors	☒	☐	☒
☒	☐	☐	☐	• Conferences, Symposia, Workshops	☐	☒	☐
☐	☐	☐	☐	• Educational Information Centers	☐	☐	☐
☐	☐	☐	☐	• ERIC	☐	☐	☐
☒	☒	☐	☐	• Journal Articles	☐	☒	☐
☐	☐	☐	☐	• Local Curriculum Materials	☒	☐	☐
☐	☐	☐	☐	• Newsletters, Bulletins, Announcements	☐	☐	☐
☐	☐	☐	☐	• Technical Reports	☐	☐	☐
				D. GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION? (Check one per column)			
☐	☐	☐	☐	• Daily	☐	☐	☐
☐	☐	☐	☐	• Weekly	☒	☐	☐
☒	☐	☒	☐	• Monthly	☐	☒	☒
☐	☒	☐	☐	• Quarterly	☐	☐	☐
☐	☐	☐	☒	• Less often	☐	☐	☐

PLEASE CHECK TO BE SURE THAT ALL THE QUESTIONS ARE ANSWERED FOR EACH SUBJECT OR USE.

GO ON TO QUESTION 17 BY FOLDING THIS PAGE UP

APPENDIX C

METHOD OF SELECTION OF SURVEY PARTICIPANTS

An initial sample size of 2647 distributed over 24 categories was chosen as the number of participants that would be both manageable and sufficiently large to include adequate numbers of all categories in a representation proportionate to the total educator population. The categories were selected to reflect the spectrum of educators, based upon a review of relevant literature and discussions with the project monitor and consultants (see Table C-1). The sample size was derived as follows:

- A sample size of 1500 was originally suggested and agreed upon.
- Upon review of the original sampling plan with USOE, it was decided to increase the two categories "preschool and kindergarten" and "elementary classroom teachers" to allow for some additional variables. This resulted in an increase of 537 in sample size.
- USOE further suggested the addition of four new categories of respondents. On a proportional basis, this required an increase of 610 in the sample size.
- In addition, USOE suggested the surveying of 150 state agency personnel. This number was not in proportion to the total educator population.
- The additions of 537 + 610 + 150 to the original 1500 result in a total sample size of 2797. For the proportional sampling, the figure 2647 was used, since 150 of the total were not proportional.

TABLE C-1

STRATIFICATION OF EDUCATORS SAMPLED

EDUCATOR TYPE	POPULATION[a]	INITIAL SAMPLE FRACTION	INITIAL SAMPLE SIZE	ADJUSTED SAMPLE SIZE	ADJUSTED SAMPLE FRACTION	AVERAGE NUMBER PER DISTRICT
Preschool & Kindergarten	169,000	4.6	122	360[f]	11.4	18.0
Elementary Classroom Teachers	1,379,000	37.5	993	720[f]	22.9	36.0
Elementary Reading Teachers	14,000	.4	11	30	1.0	1.5
Secondary Teachers:[b]						
Agriculture	20,172	.5	13	30	1.0	1.5
Arts	84,889	2.3	61	61	1.9	3.1
Business Education	88,690	2.4	64	64	2.0	3.2
English	229,327	6.2	164	164	5.2	8.2
Home Economics	74,753	2.0	53	53	1.7	2.7
Languages	81,088	2.2	58	58	1.8	2.9
Mathematics	176,113	4.8	127	127	4.0	6.4
PE & Health	87,423	2.4	64	64	2.0	3.2
Science	136,836	3.7	98	98	3.1	4.9
Social Studies	193,851	5.3	140	140	4.5	7.0
Vocational Education	64,617	1.8	48	48	1.5	2.4
Special Resource Personnel	30,000	.8	21	30	1.0	1.5
Superintendents[c]	24,754	.7	19	30	1.0	1.5
Consultants & Supervisors	30,372	.8	21	30	1.0	1.5
Principals and Vice P.	85,507	2.4	64	64	2.0	3.2
Librarians	33,838	.9	24	30	1.0	1.5
School Board Members	45,000	1.2	32	32	1.0	1.6
Guidance Personnel	46,798	1.3	34	34	1.1	1.7
NOT FROM SCHOOL DISTRICTS[d]						
Private Nursery and Preschool	200,000	5.4	143	360[f]	11.4	NA
Junior College Teachers	80,000	2.2	58	58	1.8	NA
Adult Basic Ed. Teachers	20,000	.5	13	30	1.0	NA
Private Vocational & Tech.	270,000	7.3	193	220[f]	7.0	NA
Insitutional Researchers[e]	2,220	.006	<1	30	1.0	NA
University Researchers	6,000	.02	<1	30	1.0	NA
State Agency Personnel	NA	NA	NA	150[f]	4.8	NA
TOTALS	3,674,248	99.8	2647[g]	3145	100.1	--

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[a] Based on the 1970 Digest of Educational Statistics published by USOE, except as noted.

[b] An additional 29,141 fall into categories other than those listed.

[c] Includes assistant superintendents and other administrators but excludes administrators at the state level.

[d] Population values for these categories are estimates.

[e] Includes a variety of educational research facilities such as Regional Laboratories and Educational Materials Centers.

[f] These numbers are based on additional considerations, see Table 2.

[g] Total equals 9 less, due to rounding.

- The sample size for each educator type was then determined by taking the sampling fraction of 2647 for each type. This resulted in an adjusted sample size of 3145.

With data from the 1970 Digest of Educational Statistics, sampling fractions were created for each of the 28 categories. These fractions are shown in Table C-1 under the heading of Initial Sample Fraction. From these fractions, the proportionate numbers for each category to be sampled were derived (shown in the table under the heading of Initial Sample Size).

The minimum number required for each category to produce sufficiently reliable confidence bands is 30. Since several of the 28 categories contained an initial sample size of less than 30, it seemed necessary to adjust the sample sizes once more. However, an adjustment to produce a minimum of 30 per category and still maintain strict proportionality would have created a phenomenally large sample. For example, the number of elementary classroom teachers to be sampled would have had to be increased to 18,805 to retain the required proportions. A sample population of this size was clearly unworkable, and the number of elementary teachers in the originally adjusted sample (720) was more than sufficient for making reliable estimates. Thus, in some cases proportionality had to be modified, and the total sample size of 2797 was maintained.

The categories that were added on the recommendation of USOE were assigned sample sizes in response to various priorities. These categories are shown in Table C-2.

The survey covered an initial 20 school districts in 18 states. To obtain a nationwide distribution of both small and large districts, the school districts were stratified by size and OE/DHEW region. Table C-3 shows the sampling fractions based upon these two variables. The districts were stratified by size (using pupil enrollment as an index of size) to ensure the representation of participants in proportion to their distribution. Without this qualification,

TABLE C-2

BASIS FOR ASSIGNED VALUES FOR ADDITIONAL SAMPLE TYPES

<table>
<tr><th>TYPE</th><th>ADJUSTED SAMPLE SIZE</th><th>BASIS</th></tr>
<tr><td>Preschool and Kindergarten</td><td>360</td><td>Teachers to be divided into 12 categories as as follows: Experience--3 factors; socio-economic status of school--2 factors; minority group predominates--2 factors. Thus there are 3 x 2 x 2 or 12 categories. At 30 per category = 360</td></tr>
<tr><td>Elementary Classroom Teachers</td><td>720</td><td>Same as above but multiplied by 2 to allow for two levels of grade taught (upper and lower)</td></tr>
<tr><td>Private Nursery and Preschool</td><td>360</td><td>Same as Preschool and Kindergarten</td></tr>
<tr><td>Vocational and Technical (Private)</td><td>220</td><td>Teachers to be divided into seven categories as follows:
<table>
<tr><th></th><th>Number of Teachers</th><th>Required Sample Size</th></tr>
<tr><td>Agriculture</td><td>28,000</td><td>30</td></tr>
<tr><td>Distributive Occupations</td><td>20,000</td><td>30</td></tr>
<tr><td>Health Occupations</td><td>6,000</td><td>30</td></tr>
<tr><td>Home Economics</td><td>81,000</td><td>40</td></tr>
<tr><td>Office Occupations</td><td>63,000</td><td>30</td></tr>
<tr><td>Technical Training</td><td>12,000</td><td>30</td></tr>
<tr><td>Trade & Industrial</td><td>60,000</td><td>30</td></tr>
</table>
</td></tr>
<tr><td>State Agency Personnel</td><td>150</td><td>Based on categories suggested by USOE.</td></tr>
</table>

TABLE C-3

STRIATIFICATION BY DISTRICT SIZE AND REGIONAL POPULATION

PUPIL ENROLLMENT	SAMPLING FRACTION (PERCENT OF DISTRICTS)		REGION I	II	III	IV	V	VI	VII	VIII	IX	X		$\sum_D$
725,000	30.0		The 20 districts chosen must satisfy the marginal conditions set by $\sum_D$ and $\sum_R$											
10,200-25,000	17.9													
5,000-10,000	17.0													
2,500-5,000	15.6													
1,000-2,500	12.5													
<1,000	7.0													
	100.0%	SAMPLING FRACTION (PERCENT OF POPULATION)	5.9	14.7	11.8	14.7	20.6	8.8	5.9	2.9	11.8	2.9		100.0%
$\sum_R$		NUMBER OF DISTRICTS	1	3	2	3	4	2	1	1	2	1		20

R = Size of Region
D = Size of District

a random sample of all school districts would almost exclusively yield small districts (which are by far the most numerous but represent the fewest educators) and essentially omit the larger districts (which are few in number but represent the majority of the educators).

The districts were stratified by regional population to provide a distribution of participants throughout the states and to ensure the opportunity for responses from the less populous regions. These two factors were used for the 21 categories of educators associated with school districts.

Using the matrix in Table C-3, 20 school districts that qualified in terms of the criteria described above were selected at random from the 1970-1971 Education Directory of Public School Systems. The districts selected are listed in Table C-4. One further criterion was required of the districts selected--that they include both primary and secondary schools to ensure participation at all levels from all districts in the sample. It was not possible to include only districts with kindergartens, since some states have no kindergartens and it was considered undesirable to eliminate these states from the survey. Instead, kindergarten teachers in certain districts were oversampled to compensate for districts without kindergartens.

In several districts there were fewer than the required number of respondents in one or more categories. In these cases it was necessary to find supplementary districts. Twenty-one supplementary districts were chosen, each approximately the same size and in the same state as the original district. These 21 supplementary districts are also shown in Table C-4.

Table C-5 shows the resulting distribution of school districts and types of educators sampled from within those districts. The data in this table are based on the sample size of 2267 (the total number to be sampled of those connected with school districts).

The selection and recruiting of survey participants began at the state level. A list of the state agency personnel who were contacted is given in Table C-6.

TABLE C-4

RESULTS OF RANDOM SELECTION: 20 SCHOOL DISTRICTS (IN RANK ORDER BY DISTRICT SIZE) PLUS SUPPLEMENTS FOR SMALL DISTRICTS

REGION	STATE	LOCATION	DISTRICT NAME	GRADES	SCHOOLS	PUPIL ENROLLMENT
III	Pa.	Phila.	Philadelphia	K-12	265	293,472
V	Ohio	Columbus	Columbus	K-12	174	108,195
V	Minn.	Minneapolis	Minneapolis Special	K-12	98	66,593
IV	S.C.	Charleston	Charleston Co.	1-12	88	56,893
VI	Tex.	Lubbock	Lubbock	1-12	54	32,967
IX	Calif.	Hayward	Hayward	PK-12	51	29,196
I	Mass.	Newtonville	Newton	K-12	32	18,110
IV	Tenn.	Clarksville	Montgomery County	1-12	--	13,933
VI	Ark.	Fort Smith	Fort Smith	1-12	26	12,696
III	Del.	Wilmington	Alfred F. Dupont	1-12	14	10,333
II	N.J.	Westfield	Westfield	K-12	13	8,794
II	N.J.	Somerset	Franklin Township	K-12	12	7,504
VII	Neb.	No. Platt	North Platt	K-12	13	7,971
IV	N.C.	Greene County	Greene County[a]	1-12	9	4,371
V	Ill.	Canton	Canton[b]	K-12	14	3,919
VII	S.D.	Huron	Huron[c]	K-12	9	3,910
V	Ill.	Macomb	Macomb[d]	K-12	8	2,500
IX	Nev.	Winnemucca	Humboldt County[e]	K-12	11	1,707
V	Ore.	Oakridge	Oakridge 76[f]	1-12	5	1,277
II	N.Y.	Chaumont	Lyme[g]	K-12	1	427
		SUPPLEMENTARY DISTRICTS				
V	Ill.	Mahomet	Mahomet 1	K-12	5	1,282
IX	Nev.	Tonapah	Nye County 2	K-12	11	1,233
X	Ore.	Philomath	Philomath 3	1-12	4	1,045
X	Ore.	Phoenix	Phoenix 4	1-12	4	1,708
II	N.Y.	Madison	Madison 5	K-12	3	811
II	N.Y.	Jefferson	Jefferson 6	K-12	1	300
II	N.Y.	Alexandria Bay	Alexandria 7	K-12	2	864
II	N.Y.	Belleville	Belleville 8	K-12	1	669
II	N.Y.	Brownville	General Brown 9	K-12	3	1,677
II	N.Y.	Henderson	Henderson 10	K-12	1	271
II	N.Y.	Sacket Harbor	Hounsfield 11	K-12	1	754
II	N.Y.	Philadelphia	Indian River 12	K-12	5	2,310
II	N.Y.	LaFargeville	LaFargeville 13	K-12	1	616
II	N.Y.	Adams	So. Jefferson 14	K-12	4	2,209
II	N.Y.	Clayton	Thousand Islands 15	K-12	2	1,429
IV	N.C.	Raeford	Hoke County 16	1-12	7	4,847
X	Ore.	Scappoose	Scappoose 17	1-12	4	1,687
V	Ill.	Marshall	Marshall 18	K-12	5	1,802
VII	S.D.	Chamberlain	Chamberlain 19	K-12	14	1,325
IX	Nev.	Gardnerville	Douglas County 20	K-12	4	1,650
V	Ill.	De Kalb	De Kalb 21	K-12	11	4,654

[a] Supplementary district 16

[b] Supplementary district 21

[c] Supplementary district 19

[d] Supplementary districts 1,18

[e] Supplementary districts 2,20

[f] Supplementary districts 3,4,17

[g] Supplementary districts 5-15

TABLE C-5
DISTRIBUTION OF PARTICIPANTS BY SCHOOL DISTRICT

EDUCATOR TYPE	AVERAGE NUMBER PER DISTRICT	SCHOOL DISTRICT																				TOTALS
		Philadelphia	Columbus	Minneapolis	Charleston	Lubbock	Hayward	Newton	Montgomery Co.	Fort Smith	Alfred F. Dupont	Westfield	Franklin Township	No. Platt	Greene Co.	Canton	Huron	Macomb	Humboldt Co.	Oakridge	Lyme	
Pre-school & Kindergarten*	18.0	28	28	28	-	-	28	-	-	-	28	28	28	28	-	28	27	27	-	27	27	360
Elementary Classroom Teachers	36.0	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	720
Elementary Reading Teachers	1.5	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	30
Secondary Teachers:																						
Business Education	3.2	4	3	3	4	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	4	64
English	8.2	8	8	8	8	9	9	8	8	8	8	8	8	8	9	8	9	8	8	8	8	164
Arts	3.1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	61
Languages	2.9	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3	3	3	58
Home Economics	2.7	3	2	3	2	3	2	4	2	3	3	3	2	4	2	3	2	3	2	3	2	53
Mathematics	6.4	7	6	7	6	7	6	6	6	7	7	6	6	7	6	6	6	7	6	6	6	127
PE & Health	3.2	3	3	4	3	3	3	3	3	3	3	3	3	4	3	4	3	3	3	4	3	64
Science	4.9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5	98
Social Studies	7.0	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	140
Vocational Education	2.4	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	1	3	1	48
Agriculture	1.5	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	30
Special Resource Personnel	1.5	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	30
Superintendents	1.5	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	30
Consultants & Supervisors	1.5	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	30
Principals & Vice P.	3.2	3	3	4	3	4	3	3	4	3	4	3	3	3	3	3	3	3	3	3	3	64
Librarians	1.5	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	30
School Board Members	1.6	2	1	2	1	2	1	2	1	2	1	2	1	2	1	3	1	2	2	2	1	32
Guidance Personnel	1.7	1	2	1	2	2	2	1	2	1	2	2	2	1	2	2	2	2	2	1	2	34
TOTALS	--																					2267

*Dashes indicate no preschool or kindergarten in district.

TABLE C-6

STATE AGENCY PERSONNEL CONTACTS

STATE	NAME	POSITION
Arkansas	A. W. Ford	Commissioner of Education
	Victor H. Wohlford	Director, Public Relations
	Frank W. Cannaday	Supervisor, Research and Statistics
California	Wilson Riles	Superintendent of Public Instruction
	Greg Lipscomb	Director, Public Information
	Robert Howe	Coordinator of the Bureau of Systems Analysis and Data Processing
	Walter Coultas	----
Delaware	Kenneth C. Madden	Superintendent of Public Instruction
	Ambrose W. Hagarty	Coordinator, Public Information
	Wilmer E. Wise	Director, Research, Planning, and Evaluation Division
Illinois	Michael Bakalis	Superintendent of Public Instruction
	Cameron Barbian	Data Control Supervisor
	----	Director, Public Information
Massachusetts	Neil V. Sullivan	Commissioner of Education
	James F. Baker	Ass't. Commissioner of Research and Development
	Patricia Stevens	Acting Director, State Dept. of Education
Minnesota	Howard B. Casmey	Commissioner of Education
	James C. Lee	Publications Director
	S. Walter Harvey	Director of Research, Statistics, and State Aid
	E. Raymond Peterson	Assistant Commissioner
Nebraska	Cecil E. Stanley	Commissioner of Education
	Wilbur A. Schindler	Chief, School Finance and Statistical Services Section
	George Rotter	Editor of Publications
Nevada	Burnell Larson	Superintendent of Public Instruction
	Gene W. Robinson	Coordinator, Publications and Public Information
	Lincoln W. Liston	Associate Superintendent for Admin.
	Robert Best	Associate Superintendent for Educational Services

Table C-6 (Cont'd)

STATE	NAME	POSITION
New Jersey	Carl L. Marburger	Commissioner of Education
	Robert F. Palmer	Director, Public Information
	William H. Lucow	Director, Office of Management Info.
	Clyde E. Leib	Special Assistant to the Commissioner
	August E. Thomas	Legal Counsel
New York	Ewald B. Nyquist	Commissioner of Education
	John J. Stiglmeier	Director, Div. of Educational Info.
	Arnold Bloom	Director, Public Information
	Loren H. Woollatt	Associate Commissioner, Res. & Eval.
	Thomas Sheldon	Dep. Commissioner
North Carolina	A. Craig Phillips	Superintendent of Public Instruction
	Tom I. Davis	Special Assistant, Public Info.
	William W. Peck	Assistant to State Superintendent
Ohio	Martin W. Essex	Superintendent of Public Instruction
	Harry E. Wolford	Director, Computer Services
	Stephen K. Hiles	Publications and Information
Oregon	Dale P. Parnell	Superintendent of Public Instruction
	Milt Baum	Director, Executive and Legal Services
	Carl L. Christoffersen	Director, Computer Services
	Glen Middleton	Legal Counsel
	George Katagiri	Director, Inst. Tech.
Pennsylvania	John C. Pittenger	Secretary of Education
	Albert E. Holliday	Director, Bureau of Info. and Public.
	Dean S. Hartman	Director of Statistics
South Carolina	Cyril B. Busbee	Superintendent of Education
	Raymond L. Morton	Director, Public Information
	Joseph Davis	Teacher Cert.
South Dakota	Donald P. Barnhart	Superintendent of Public Instruction
	Gale D. Schlueter	Director, Statistical Services
	Gary Hansen	Information Specialist
Tennessee	E. C. Stimbert	Commissioner of Education
	A. Ben Groce	Coordinator of Educational Info.
	Charles K. Pullen	Director, Statistical Services
Texas	J. W. Edgar	Commissioner of Education
	Jerry T. Barton	Dir., Res., Mgmt. Information Ctr.
	Virginia Cutter	Director, Division of Dissemination

APPENDIX D

CROSS-TABULATIONS BY USER GROUP

After the major subjects and uses were determined for each user group, two sets of cross-tabulations were made--one by subject interest and one by use--for each of four questions:

- What type of document do you generally need?
- Generally, how intense is your need for the information?
- What are your principal sources of the information?
- Generally, how frequently do you need the information?

The results of these cross-tabulations follow. Within each set the tables are arranged by user group. In each table, the size of the user group appears in the upper right corner. The percentages given, however, are based on the number of persons responding to each item. That number appears at the base of the column to which it refers.

USER GROUP: PRESCHOOL/KINDERGARTEN TEACHERS (N = 148)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	INST METH	GROWTH/DEV	READING	CLASS SUBJ	COMMUNITY
REFERENCES	52 (46%)	56 (50%)	43 (38%)	35 (39%)	21 (33%)
CURRICULUM MATERIALS	81 (71%)	43 (38%)	98 (88%)	83 (93%)	16 (25%)
TECHNICAL REPORTS	58 (51%)	62 (55%)	54 (48%)	39 (44%)	15 (24%)
THEORETICAL PAPERS	47 (41%)	56 (50%)	36 (32%)	22 (25%)	14 (22%)
CASE STUDIES	81 (71%)	71 (63%)	64 (57%)	38 (43%)	25 (40%)
REVIEWS	33 (29%)	40 (36%)	28 (25%)	26 (29%)	13 (21%)
RESOURCE LISTS	60 (53%)	30 (27%)	55 (49%)	37 (42%)	34 (54%)
DATA	10 (9%)	18 (16%)	5 (4%)	7 (8%)	5 (8%)
	N = 114	N = 112	N = 112	N = 89	N = 63

USER GROUP: PRESCHOOL/KINDERGARTEN TEACHERS (N = 148)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	INST METH	GROWTH/DEV	READING	CLASS SUBJ	COMMUNITY
VERY HIGH	50 (44%)	43 (38%)	53 (47%)	31 (35%)	12 (19%)
MODERATE	45 (39%)	50 (45%)	42 (38%)	40 (45%)	35 (56%)
SLIGHT	13 (11%)	14 (13%)	9 (8%)	13 (15%)	14 (22%)
	N = 114	N = 112	N = 112	N = 89	N = 63

USER GROUP: PRESCHOOL/KINDERGARTEN TEACHERS (N = 148)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	INST METH	GROWTH/DEV	READING	CLASS SUBJ	COMMUNITY
BOOKS	80 (70%)	92 (82%)	81 (72%)	71 (80%)	23 (37%)
COLLEAGUES	60 (53%)	41 (37%)	57 (51%)	59 (66%)	35 (56%)
CONFERENCES	72 (63%)	64 (57%)	75 (67%)	58 (65%)	34 (54%)
EIC	16 (14%)	17 (15%)	22 (20%)	18 (20%)	6 (10%)
ERIC	1 (1%)	6 (5%)	1 (1%)	1 (1%)	1 (2%)
JOURNALS	73 (64%)	60 (54%)	61 (54%)	41 (46%)	20 (32%)
LOCAL MATERIALS	35 (31%)	31 (28%)	70 (63%)	57 (64%)	11 (17%)
NEWSLETTERS	42 (37%)	27 (24%)	39 (35%)	37 (42%)	20 (32%)
TECHNICAL REPORTS	12 (11%)	12 (11%)	8 (7%)	8 (9%)	0 (0%)
	N = 114	N = 112	N = 112	N = 89	N = 63

USER GROUP: PRESCHOOL/KINDERGARTEN TEACHERS (N = 148)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	INST METH	GROWTH/DEV	READING	CLASS SUBJ	COMMUNITY
DAILY	8 (7%)	15 (13%)	23 (21%)	22 (25%)	2 (3%)
WEEKLY	14 (12%)	12 (11%)	22 (20%)	20 (22%)	6 (10%)
MONTHLY	34 (30%)	28 (25%)	29 (26%)	21 (24%)	20 (32%)
QUARTERLY	30 (26%)	33 (29%)	19 (17%)	12 (13%)	16 (25%)
LESS OFTEN	22 (19%)	19 (17%)	10 (9%)	9 (10%)	16 (25%)
	N = 114	N = 112	N = 112	N = 89	N = 63

USER GROUP: ELEMENTARY TEACHERS (N = 562)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASS SUBJ	INST METH	READING	GROWTH/DEV	TEST/EVAL
REFERENCES	260 (52%)	253 (51%)	181 (41%)	214 (50%)	56 (31%)
CURRICULUM MATERIALS	470 (94%)	392 (79%)	407 (92%)	172 (40%)	113 (62%)
TECHNICAL REPORTS	219 (44%)	208 (42%)	204 (46%)	181 (42%)	76 (42%)
THEORETICAL PAPERS	156 (31%)	169 (34%)	134 (30%)	150 (35%)	34 (19%)
CASE STUDIES	196 (39%)	353 (71%)	231 (52%)	223 (52%)	61 (34%)
REVIEWS	136 (27%)	112 (23%)	110 (25%)	136 (32%)	68 (37%)
RESOURCE LISTS	269 (54%)	271 (55%)	244 (55%)	138 (32%)	63 (35%)
DATA	21 (4%)	35 (7%)	32 (7%)	61 (14%)	45 (25%)
	N = 499	N = 495	N = 442	N = 426	N = 182

USER GROUP: ELEMENTARY TEACHERS (N = 562)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASS SUBJ	INST METH	READING	GROWTH/DEV	TEST/EVAL
VERY HIGH	226 (45%)	214 (43%)	228 (52%)	93 (22%)	28 (15%)
MODERATE	217 (43%)	202 (41%)	163 (37%)	233 (55%)	93 (51%)
SLIGHT	36 (7%)	49 (10%)	28 (6%)	74 (17%)	53 (29%)
	N = 499	N = 495	N = 442	N = 426	N = 182

USER GROUP: ELEMENTARY TEACHERS (N = 562)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASS SUBJ	INST METH	READING	GROWTH/DEV	TEST/EVAL
BOOKS	430 (86%)	360 (73%)	382 (86%)	311 (73%)	95 (52%)
COLLEAGUES	304 (61%)	295 (60%)	277 (63%)	169 (40%)	80 (44%)
CONFERENCES	317 (64%)	326 (66%)	293 (66%)	173 (41%)	50 (27%)
EIC	101 (20%)	68 (14%)	83 (19%)	49 (12%)	20 (11%)
ERIC	8 (2%)	9 (2%)	6 (1%)	7 (2%)	1 (1%)
JOURNALS	267 (54%)	301 (61%)	254 (57%)	222 (52%)	73 (40%)
LOCAL MATERIALS	327 (66%)	169 (34%)	257 (58%)	95 (22%)	49 (27%)
NEWSLETTERS	213 (43%)	178 (36%)	151 (34%)	102 (24%)	42 (23%)
TECHNICAL REPORTS	31 (6%)	33 (7%)	34 (8%)	53 (12%)	21 (12%)
	N = 499	N = 495	N = 442	N = 426	N = 182

USER GROUP: ELEMENTARY TEACHERS (N = 562)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATICN?

	CLASS SUBJ	INST METH	READING	GROWTH/DEV	TEST/EVAL
DAILY	126 (25%)	49 (10%)	122 (28%)	38 (9%)	4 (2%)
WEEKLY	172 (34%)	74 (15%)	100 (23%)	50 (12%)	17 (9%)
MONTHLY	103 (21%)	162 (33%)	115 (26%)	112 (26%)	33 (18%)
QUARTERLY	51 (10%)	88 (18%)	61 (14%)	99 (23%)	63 (35%)
LESS OFTEN	24 (5%)	87 (18%)	25 (6%)	104 (24%)	56 (31%)
	N = 499	N = 495	N = 442	N = 426	N = 182

USER GROUP: SECONDARY TEACHERS (N = 557)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASS SUBJ	INST METH	GROWTH/DEV	TEACHER ED	READING
REFERENCES	273 (57%)	246 (56%)	168 (49%)	71 (35%)	73 (46%)
CURRICULUM MATERIALS	426 (90%)	344 (78%)	139 (41%)	83 (41%)	115 (73%)
TECHNICAL REPORTS	207 (44%)	198 (45%)	146 (43%)	63 (31%)	55 (35%)
THEORETICAL PAPERS	172 (36%)	160 (36%)	129 (38%)	43 (21%)	35 (22%)
CASE STUDIES	198 (42%)	282 (64%)	193 (56%)	71 (35%)	76 (48%)
REVIEWS	128 (27%)	106 (24%)	105 (31%)	35 (17%)	37 (23%)
RESOURCE LISTS	281 (59%)	241 (55%)	116 (34%)	74 (37%)	85 (54%)
DATA	52 (11%)	51 (12%)	52 (15%)	17 (8%)	14 (9%)
	N = 475	N = 442	N = 342	N = 202	N = 158

USER GROUP: SECONDARY TEACHERS (N = 557)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASS SUBJ	INST METH	GROWTH/DEV	TEACHER ED	READING
VERY HIGH	226 (48%)	184 (42%)	70 (20%)	29 (14%)	58 (37%)
MODERATE	179 (38%)	193 (44%)	173 (51%)	93 (46%)	67 (42%)
SLIGHT	48 (10%)	45 (10%)	79 (23%)	65 (32%)	19 (12%)
	N = 475	N = 442	N = 342	N = 202	N = 158

USER GROUP: SECONDARY TEACHERS (N = 557)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASS SUBJ	INST METH	GROWTH/DEV	TEACHER ED	READING
BOOKS	428 (90%)	296 (67%)	228 (67%)	66 (33%)	112 (71%)
COLLEAGUES	261 (55%)	236 (53%)	123 (36%)	114 (56%)	69 (44%)
CONFERENCES	265 (56%)	242 (55%)	122 (36%)	80 (40%)	76 (48%)
EIC	87 (18%)	64 (14%)	44 (13%)	19 (9%)	16 (10%)
ERIC	13 (3%)	11 (2%)	10 (3%)	2 (1%)	5 (3%)
JOURNALS	275 (58%)	246 (56%)	167 (49%)	76 (38%)	85 (54%)
LOCAL MATERIALS	231 (49%)	123 (28%)	57 (17%)	27 (13%)	46 (29%)
NEWSLETTERS	194 (41%)	150 (34%)	96 (28%)	54 (27%)	39 (25%)
TECHNICAL REPORTS	64 (13%)	39 (9%)	42 (12%)	11 (5%)	9 (6%)
	N = 475	N = 442	N = 342	N = 202	N = 158

USER GROUP: SECONDARY TEACHERS (N = 557)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CLASS SUBJ	INST METH	GROWTH/DEV	TEACHER ED	READING
DAILY	116 (24%)	52 (12%)	31 (9%)	4 (2%)	30 (19%)
WEEKLY	156 (33%)	74 (17%)	47 (14%)	13 (6%)	28 (18%)
MONTHLY	91 (19%)	133 (30%)	72 (21%)	23 (11%)	37 (23%)
QUARTERLY	56 (12%)	90 (20%)	92 (27%)	66 (33%)	25 (16%)
LESS OFTEN	30 (6%)	69 (16%)	82 (24%)	76 (38%)	21 (13%)
	N = 475	N = 442	N = 342	N = 202	N = 158

USER GROUP: ABE TEACHERS (N = 33)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	INST METH	CLASS SUBJ	COMMUNITY	BUS/VOC ED	READING
REFERENCES	13 (54%)	11 (55%)	2 (14%)	7 (54%)	3 (23%)
CURRICULUM MATERIALS	16 (67%)	17 (85%)	6 (43%)	12 (92%)	10 (77%)
TECHNICAL REPORTS	6 (25%)	10 (50%)	5 (36%)	7 (54%)	2 (15%)
THEORETICAL PAPERS	4 (17%)	8 (40%)	2 (14%)	7 (54%)	2 (15%)
CASE STUDIES	12 (50%)	11 (55%)	6 (43%)	9 (69%)	6 (46%)
REVIEWS	5 (21%)	7 (35%)	5 (36%)	2 (15%)	0 (0%)
RESOURCE LISTS	14 (58%)	12 (60%)	8 (57%)	8 (62%)	7 (54%)
DATA	5 (21%)	0 (0%)	2 (14%)	6 (46%)	0 (0%)
	N = 24	N = 20	N = 14	N = 13	N = 13

USER GROUP: ABE TEACHERS (N = 33)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	INST METH	CLASS SUBJ	COMMUNITY	BUS/VOC ED	READING
VERY HIGH	12 (50%)	12 (60%)	5 (36%)	6 (46%)	5 (38%)
MODERATE	8 (33%)	5 (25%)	8 (57%)	6 (46%)	6 (46%)
SLIGHT	3 (13%)	2 (10%)	0 (0%)	1 (8%)	1 (8%)
	N = 24	N = 20	N = 14	N = 13	N = 13

USER GROUP: ABE TEACHERS (N = 33)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	INST METH	CLASS SUBJ	COMMUNITY	BUS/VOC ED	READING
BOOKS	13 (54%)	17 (85%)	1 (7%)	8 (62%)	12 (92%)
COLLEAGUES	13 (54%)	8 (40%)	7 (50%)	7 (54%)	7 (54%)
CONFERENCES	13 (54%)	12 (60%)	6 (43%)	9 (69%)	8 (62%)
EIC	6 (25%)	2 (10%)	0 (0%)	5 (38%)	2 (15%)
ERIC	4 (17%)	3 (15%)	0 (0%)	0 (0%)	1 (8%)
JOURNALS	11 (46%)	12 (60%)	3 (21%)	8 (62%)	7 (54%)
LOCAL MATERIALS	10 (42%)	12 (60%)	3 (21%)	3 (23%)	5 (38%)
NEWSLETTERS	10 (42%)	9 (45%)	4 (29%)	5 (38%)	4 (31%)
TECHNICAL REPORTS	5 (21%)	2 (10%)	0 (0%)	4 (31%)	0 (0%)
	N = 24	N = 20	N = 14	N = 13	N = 13

```
USER GROUP: ABE TEACHERS                                         (N =  33)

QUESTICN: GENERALLY, HOW FREQUENTLY DC YOU NEED THE INFORMATICN?

                     | INST METH | CLASS SUBJ| COMMUNITY | BUS/VOC ED| READING
---------------------|-----------|-----------|-----------|-----------|-----------
DAILY                |  3 ( 13%)|  6 ( 30%)|  1 (  7%)|  4 ( 31%)|  2 ( 15%)
---------------------|-----------|-----------|-----------|-----------|-----------
WEEKLY               |  3 ( 13%)|  8 ( 40%)|  1 (  7%)|  2 ( 15%)|  4 ( 31%)
---------------------|-----------|-----------|-----------|-----------|-----------
MONTHLY              | 11 ( 46%)|  4 ( 20%)|  5 ( 36%)|  5 ( 38%)|  1 (  8%)
---------------------|-----------|-----------|-----------|-----------|-----------
QUARTERLY            |  5 ( 21%)|  C (  0%)|  3 ( 21%)|  1 (  8%)|  5 ( 38%)
---------------------|-----------|-----------|-----------|-----------|-----------
LESS OFTEN           |  1 (  4%)|  1 (  5%)|  4 ( 29%)|  1 (  8%)|  0 (  0%)
---------------------|-----------|-----------|-----------|-----------|-----------

                       N =  24     N =  20     N =  14     N =  13     N =  13
```

USER GROUP: POSTSECONDARY TEACHERS (N = 85)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	INST METH	GROWTH/DEV	CLASS SUBJ	TEST/EVAL	TEACHER ED
REFERENCES	41 (65%)	37 (69%)	34 (69%)	26 (60%)	21 (60%)
CURRICULUM MATERIALS	50 (79%)	15 (28%)	39 (80%)	11 (26%)	20 (57%)
TECHNICAL REPORTS	38 (60%)	27 (50%)	33 (67%)	31 (72%)	25 (71%)
THEORETICAL PAPERS	33 (52%)	26 (48%)	27 (55%)	22 (51%)	22 (63%)
CASE STUDIES	41 (65%)	30 (56%)	17 (35%)	15 (35%)	21 (60%)
REVIEWS	2C (32%)	20 (37%)	24 (49%)	17 (40%)	15 (43%)
RESOURCE LISTS	36 (57%)	18 (33%)	27 (55%)	18 (42%)	24 (69%)
DATA	6 (10%)	11 (20%)	8 (16%)	14 (33%)	9 (26%)
	N = 63	N = 54	N = 49	N = 43	N = 35

USER GROUP: POSTSECONDARY TEACHERS (N = 85)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	INST METH	GROWTH/DEV	CLASS SUBJ	TEST/EVAL	TEACHER ED
VERY HIGH	27 (43%)	13 (24%)	19 (39%)	12 (28%)	17 (49%)
MODERATE	23 (37%)	32 (59%)	22 (45%)	22 (51%)	15 (43%)
SLIGHT	8 (13%)	8 (15%)	8 (16%)	8 (19%)	2 (6%)
	N = 63	N = 54	N = 49	N = 43	N = 35

USER GROUP: POSTSECONDARY TEACHERS (N = 85)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	INST METH	GROWTH/DEV	CLASS SUBJ	TEST/EVAL	TEACHER ED
BOOKS	47 (75%)	34 (63%)	43 (88%)	28 (65%)	23 (66%)
COLLEAGUES	31 (49%)	14 (26%)	22 (45%)	19 (44%)	19 (54%)
CONFERENCES	40 (63%)	26 (48%)	34 (69%)	18 (42%)	26 (74%)
EIC	10 (16%)	5 (9%)	6 (12%)	7 (16%)	7 (20%)
ERIC	11 (17%)	10 (19%)	5 (10%)	7 (16%)	9 (26%)
JOURNALS	46 (73%)	38 (70%)	37 (76%)	34 (79%)	29 (83%)
LOCAL MATERIALS	6 (10%)	1 (2%)	7 (14%)	2 (5%)	1 (3%)
NEWSLETTERS	20 (32%)	14 (26%)	22 (45%)	16 (37%)	13 (37%)
TECHNICAL REPORTS	9 (14%)	14 (26%)	14 (29%)	13 (30%)	7 (20%)
	N = 63	N = 54	N = 49	N = 43	N = 35

USER GROUP: POSTSECONDARY TEACHERS (N = 85)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	INST METH	GROWTH/DEV	CLASS SUBJ	TEST/EVAL	TEACHER ED
DAILY	8 (13%)	6 (11%)	11 (22%)	5 (12%)	5 (14%)
WEEKLY	7 (11%)	7 (13%)	16 (33%)	10 (23%)	6 (17%)
MONTHLY	24 (38%)	15 (28%)	6 (12%)	11 (26%)	14 (40%)
QUARTERLY	8 (13%)	11 (20%)	8 (16%)	7 (16%)	6 (17%)
LESS OFTEN	11 (17%)	9 (17%)	5 (10%)	9 (21%)	3 (9%)
	N = 63	N = 54	N = 49	N = 43	N = 35

USER GROUP: READING SPECIALISTS (N = 63)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	READING	INST METH	CLASS SUBJ	GROWTH/DEV	TEST/EVAL
REFERENCES	24 (41%)	21 (40%)	13 (28%)	20 (45%)	8 (40%)
CURRICULUM MATERIALS	54 (92%)	34 (64%)	43 (93%)	15 (34%)	10 (50%)
TECHNICAL REPORTS	30 (51%)	20 (38%)	18 (39%)	18 (41%)	8 (40%)
THEORETICAL PAPERS	22 (37%)	16 (30%)	8 (17%)	15 (34%)	6 (30%)
CASE STUDIES	33 (56%)	35 (66%)	14 (30%)	24 (55%)	7 (35%)
REVIEWS	14 (24%)	10 (19%)	12 (26%)	11 (25%)	6 (30%)
RESOURCE LISTS	33 (56%)	24 (45%)	20 (43%)	11 (25%)	6 (30%)
DATA	4 (7%)	1 (2%)	0 (0%)	5 (11%)	6 (30%)
	N = 59	N = 53	N = 46	N = 44	N = 20

USER GROUP: READING SPECIALISTS (N = 63)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	READING	INST METH	CLASS SUBJ	GROWTH/DEV	TEST/EVAL
VERY HIGH	39 (66%)	19 (36%)	19 (41%)	13 (30%)	6 (30%)
MODERATE	15 (25%)	23 (43%)	19 (41%)	18 (41%)	11 (55%)
SLIGHT	3 (5%)	6 (11%)	6 (13%)	8 (18%)	0 (0%)
	N = 59	N = 53	N = 46	N = 44	N = 20

USER GROUP: READING SPECIALISTS (N = 63)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	READING	INST METH	CLASS SUBJ	GROWTH/DEV	TEST/EVAL
BOOKS	51 (86%)	38 (72%)	34 (74%)	30 (68%)	8 (40%)
COLLEAGUES	37 (63%)	27 (51%)	23 (50%)	17 (39%)	8 (40%)
CONFERENCES	44 (75%)	32 (60%)	27 (59%)	20 (45%)	6 (30%)
EIC	11 (19%)	5 (9%)	10 (22%)	5 (11%)	3 (15%)
ERIC	2 (3%)	1 (2%)	1 (2%)	3 (7%)	0 (0%)
JOURNALS	37 (63%)	28 (53%)	21 (46%)	23 (52%)	10 (50%)
LOCAL MATERIALS	39 (66%)	15 (28%)	29 (63%)	8 (18%)	4 (20%)
NEWSLETTERS	27 (46%)	19 (36%)	16 (35%)	8 (18%)	4 (20%)
TECHNICAL REPORTS	9 (15%)	5 (9%)	3 (7%)	6 (14%)	2 (10%)
	N = 59	N = 53	N = 46	N = 44	N = 20

USER GRCUP: READING SPECIALISTS (N = 63)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATICN?

	READING	INST METH	CLASS SUBJ	GROWTH/DEV	TEST/EVAL
DAILY	22 (37%)	2 (4%)	14 (30%)	4 (9%)	0 (0%)
WEEKLY	15 (25%)	8 (15%)	14 (30%)	5 (11%)	1 (5%)
MONTHLY	12 (20%)	19 (36%)	7 (15%)	8 (18%)	4 (20%)
QUARTERLY	5 (8%)	11 (21%)	6 (13%)	9 (20%)	9 (45%)
LESS OFTEN	4 (7%)	11 (21%)	3 (7%)	17 (39%)	5 (25%)
	N = 59	N = 53	N = 46	N = 44	N = 20

USER GROUP: VOCATIONAL EDUCATORS (N = 158)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	BUS/VOC ED	INST METH	CLASS SUBJ	GROWTH/DEV	TEACHER ED
REFERENCES	69 (53%)	47 (42%)	44 (60%)	27 (38%)	18 (28%)
CURRICULUM MATERIALS	110 (85%)	87 (78%)	62 (85%)	28 (39%)	36 (56%)
TECHNICAL REPORTS	71 (55%)	53 (47%)	30 (41%)	27 (38%)	24 (38%)
THEORETICAL PAPERS	42 (32%)	40 (36%)	26 (36%)	25 (35%)	14 (22%)
CASE STUDIES	59 (45%)	60 (54%)	28 (38%)	39 (54%)	36 (56%)
REVIEWS	37 (28%)	30 (27%)	20 (27%)	18 (25%)	12 (19%)
RESOURCE LISTS	91 (70%)	60 (54%)	43 (59%)	24 (33%)	30 (47%)
DATA	29 (22%)	18 (16%)	9 (12%)	11 (15%)	6 (9%)
	N = 130	N = 112	N = 73	N = 72	N = 64

USER GROUP: VOCATIONAL EDUCATORS (N = 158)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	BUS/VOC ED	INST METH	CLASS SUBJ	GROWTH/DEV	TEACHER ED
VERY HIGH	76 (58%)	43 (38%)	34 (47%)	17 (24%)	14 (22%)
MODERATE	43 (33%)	46 (41%)	30 (41%)	42 (58%)	35 (55%)
SLIGHT	8 (6%)	15 (13%)	6 (8%)	9 (13%)	12 (19%)
	N = 130	N = 112	N = 73	N = 72	N = 64

USER GROUP: VOCATIONAL EDUCATORS (N = 158)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	BUS/VOC ED	INST METH	CLASS SUBJ	GROWTH/DEV	TEACHER ED
BOOKS	103 (79%)	63 (56%)	65 (89%)	45 (63%)	24 (38%)
COLLEAGUES	71 (55%)	51 (46%)	34 (47%)	27 (38%)	41 (64%)
CONFERENCES	89 (68%)	66 (59%)	44 (60%)	37 (51%)	38 (59%)
EIC	32 (25%)	20 (18%)	11 (15%)	7 (10%)	15 (23%)
ERIC	6 (5%)	8 (7%)	7 (10%)	1 (1%)	4 (6%)
JOURNALS	89 (68%)	61 (54%)	48 (66%)	42 (58%)	27 (42%)
LOCAL MATERIALS	53 (41%)	37 (33%)	37 (51%)	15 (21%)	10 (16%)
NEWSLETTERS	71 (55%)	38 (34%)	33 (45%)	15 (21%)	19 (30%)
TECHNICAL REPORTS	35 (27%)	14 (13%)	13 (18%)	12 (17%)	8 (13%)
	N = 130	N = 112	N = 73	N = 72	N = 64

USER GROUP: VOCATIONAL EDUCATORS (N = 158)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	BUS/VOC ED	INST METH	CLASS SUBJ	GROWTH/DEV	TEACHER ED
DAILY	36 (28%)	16 (14%)	17 (23%)	11 (15%)	5 (8%)
WEEKLY	39 (30%)	26 (23%)	27 (37%)	8 (11%)	7 (11%)
MONTHLY	28 (22%)	27 (24%)	10 (14%)	24 (33%)	16 (25%)
QUARTERLY	13 (10%)	19 (17%)	11 (15%)	14 (19%)	23 (36%)
LESS OFTEN	12 (9%)	18 (16%)	5 (7%)	11 (15%)	10 (16%)
	N = 130	N = 112	N = 73	N = 72	N = 64

USER GROUP: SPECIAL EDUCATORS (N = 84)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	INST METH	GROWTH/DEV	CLASS SUBJ	READING	COMMUNITY
REFERENCES	38 (58%)	31 (48%)	23 (41%)	23 (45%)	7 (27%)
CURRICULUM MATERIALS	53 (80%)	20 (31%)	53 (95%)	43 (84%)	8 (31%)
TECHNICAL REPORTS	37 (56%)	30 (47%)	24 (43%)	28 (55%)	9 (35%)
THEORETICAL PAPERS	30 (45%)	33 (52%)	16 (29%)	15 (29%)	5 (19%)
CASE STUDIES	47 (71%)	42 (66%)	23 (41%)	35 (69%)	13 (50%)
REVIEWS	23 (35%)	24 (38%)	21 (38%)	20 (39%)	6 (23%)
RESOURCE LISTS	34 (52%)	23 (36%)	29 (52%)	27 (53%)	15 (58%)
DATA	11 (17%)	10 (16%)	4 (7%)	6 (12%)	5 (19%)
	N = 66	N = 64	N = 56	N = 51	N = 26

USER GROUP: SPECIAL EDUCATORS (N = 84)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	INST METH	GROWTH/DEV	CLASS SUBJ	READING	COMMUNITY
VERY HIGH	29 (44%)	20 (31%)	31 (55%)	24 (47%)	5 (19%)
MODERATE	3C (45%)	28 (44%)	20 (36%)	21 (41%)	12 (46%)
SLIGHT	7 (11%)	13 (2C%)	4 (7%)	3 (6%)	7 (27%)
	N = 66	N = 64	N = 56	N = 51	N = 26

USER GROUP: SPECIAL EDUCATORS (N = 84)

QUESTION: WHAT ARE YOUR PRINCIPAL SCURCES OF THE INFORMATION?

	INST METH	GROWTH/DEV	CLASS SUBJ	READING	COMMUNITY
BOOKS	49 (74%)	48 (75%)	46 (82%)	44 (86%)	8 (31%)
COLLEAGUES	41 (62%)	25 (39%)	24 (43%)	33 (65%)	11 (42%)
CONFERENCES	39 (59%)	25 (39%)	30 (54%)	32 (63%)	9 (35%)
EIC	12 (18%)	6 (9%)	15 (27%)	15 (29%)	C (0%)
ERIC	4 (6%)	1 (2%)	1 (2%)	2 (4%)	0 (0%)
JOURNALS	42 (64%)	34 (53%)	33 (59%)	27 (53%)	9 (35%)
LOCAL MATERIALS	22 (33%)	13 (20%)	35 (63%)	30 (59%)	6 (23%)
NEWSLETTERS	25 (38%)	12 (19%)	22 (39%)	20 (39%)	8 (31%)
TECHNICAL REPORTS	5 (8%)	11 (17%)	7 (13%)	6 (12%)	2 (8%)
	N = 66	N = 64	N = 56	N = 51	N = 26

USER GROUP: SPECIAL EDUCATORS (N = 84)

QUESTION: GENERALLY, HOW FREQUENTLY DC YOU NEED THE INFORMATICN?

	INST METH	GROWTH/DEV	CLASS SUBJ	READING	COMMUNITY
DAILY	8 (12%)	8 (13%)	16 (29%)	15 (29%)	1 (4%)
WEEKLY	10 (15%)	8 (13%)	16 (29%)	13 (25%)	2 (8%)
MONTHLY	23 (35%)	11 (17%)	13 (23%)	10 (20%)	9 (35%)
QUARTERLY	10 (15%)	17 (27%)	3 (5%)	5 (10%)	5 (19%)
LESS OFTEN	11 (17%)	15 (23%)	4 (7%)	5 (10%)	5 (19%)
	N = 66	N = 64	N = 56	N = 51	N = 26

USER GROUP: SUPERINTENDENT/SCHOOL BOARD MEMBERS (N = 37)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	ADMIN AGY	FINANCE	COMMUNITY	MANAGEMENT	PERSONNEL
REFERENCES	12 (44%)	13 (50%)	9 (39%)	11 (61%)	8 (53%)
CURRICULUM MATERIALS	4 (15%)	5 (19%)	5 (22%)	4 (22%)	3 (20%)
TECHNICAL REPORTS	13 (48%)	11 (42%)	9 (39%)	11 (61%)	6 (40%)
THEORETICAL PAPERS	12 (44%)	4 (15%)	7 (30%)	7 (39%)	4 (27%)
CASE STUDIES	13 (48%)	8 (31%)	10 (43%)	7 (39%)	6 (40%)
REVIEWS	6 (22%)	9 (35%)	4 (17%)	7 (39%)	2 (13%)
RESOURCE LISTS	14 (52%)	8 (31%)	13 (57%)	9 (50%)	8 (53%)
DATA	1C (37%)	15 (58%)	5 (22%)	7 (39%)	4 (27%)
	N = 27	N = 26	N = 23	N = 18	N = 15

USER GROUP: SUPERINTENDENT/SCHOOL BOARD MEMBERS (N = 37)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	ADMIN AGY	FINANCE	COMMUNITY	MANAGEMENT	PERSONNEL
VERY HIGH	8 (30%)	14 (54%)	7 (30%)	4 (22%)	2 (13%)
MODERATE	14 (52%)	10 (38%)	10 (43%)	10 (56%)	11 (73%)
SLIGHT	4 (15%)	0 (0%)	2 (9%)	1 (6%)	1 (7%)
	N = 27	N = 26	N = 23	N = 18	N = 15

USER GROUP: SUPERINTENDENT/SCHOOL BOARD MEMBERS (N = 37)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	ADMIN AGY	FINANCE	COMMUNITY	MANAGEMENT	PERSONNEL
BOOKS	16 (59%)	8 (31%)	11 (48%)	11 (61%)	7 (47%)
COLLEAGUES	16 (59%)	15 (58%)	10 (43%)	12 (67%)	10 (67%)
CONFERENCES	17 (63%)	15 (58%)	14 (61%)	12 (67%)	10 (67%)
EIC	0 (0%)	3 (12%)	3 (13%)	4 (22%)	0 (0%)
ERIC	1 (4%)	4 (15%)	2 (9%)	3 (17%)	2 (13%)
JOURNALS	19 (70%)	16 (62%)	15 (65%)	13 (72%)	7 (47%)
LOCAL MATERIALS	2 (7%)	4 (15%)	2 (9%)	0 (0%)	2 (13%)
NEWSLETTERS	19 (70%)	13 (50%)	13 (57%)	6 (33%)	8 (53%)
TECHNICAL REPORTS	6 (22%)	12 (46%)	0 (0%)	8 (44%)	3 (20%)
	N = 27	N = 26	N = 23	N = 18	N = 15

USER GROUP: SUPERINTENDENT/SCHOOL BOARD MEMBERS (N = 37)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	ADMIN AGY	FINANCE	COMMUNITY	MANAGEMENT	PERSONNEL
DAILY	3 (11%)	3 (12%)	3 (13%)	2 (11%)	3 (20%)
WEEKLY	8 (30%)	3 (12%)	3 (13%)	2 (11%)	3 (20%)
MONTHLY	10 (37%)	13 (50%)	9 (39%)	8 (44%)	5 (33%)
QUARTERLY	5 (19%)	4 (15%)	5 (22%)	3 (17%)	4 (27%)
LESS OFTEN	1 (4%)	3 (12%)	2 (9%)	3 (17%)	0 (0%)
	N = 27	N = 26	N = 23	N = 18	N = 15

USER GROUP: PRINCIPAL/ASST. PRINCIPAL (N = 97)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	INST METH	CLASS SUBJ	GROWTH/DEV	READING	PERSONNEL
REFERENCES	49 (66%)	24 (49%)	25 (54%)	20 (53%)	16 (46%)
CURRICULUM MATERIALS	54 (73%)	39 (80%)	24 (52%)	31 (82%)	9 (26%)
TECHNICAL REPORTS	39 (53%)	19 (39%)	24 (52%)	22 (58%)	13 (37%)
THEORETICAL PAPERS	30 (41%)	17 (35%)	24 (52%)	12 (32%)	9 (26%)
CASE STUDIES	57 (77%)	23 (47%)	29 (63%)	23 (61%)	24 (69%)
REVIEWS	23 (31%)	21 (43%)	18 (39%)	14 (37%)	8 (23%)
RESOURCE LISTS	38 (51%)	29 (59%)	17 (37%)	25 (66%)	11 (31%)
DATA	13 (18%)	6 (12%)	11 (24%)	6 (16%)	7 (20%)
	N = 74	N = 49	N = 46	N = 38	N = 35

USER GROUP: PRINCIPAL/ASST. PRINCIPAL (N = 97)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	INST METH	CLASS SUBJ	GROWTH/DEV	READING	PERSONNEL
VERY HIGH	32 (43%)	18 (37%)	15 (33%)	22 (58%)	7 (20%)
MODERATE	32 (43%)	23 (47%)	22 (48%)	12 (32%)	20 (57%)
SLIGHT	7 (9%)	5 (10%)	7 (15%)	3 (8%)	8 (23%)
	N = 74	N = 49	N = 46	N = 38	N = 35

USER GROUP: PRINCIPAL/ASST. PRINCIPAL (N = 97)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	INST METH	CLASS SUBJ	GROWTH/DEV	READING	PERSONNEL
BOOKS	56 (76%)	35 (71%)	32 (70%)	30 (79%)	12 (34%)
COLLEAGUES	47 (64%)	30 (61%)	23 (50%)	24 (63%)	21 (60%)
CONFERENCES	52 (70%)	29 (59%)	23 (50%)	24 (63%)	21 (60%)
EIC	17 (23%)	9 (18%)	6 (13%)	5 (13%)	3 (9%)
ERIC	5 (7%)	3 (6%)	3 (7%)	3 (8%)	2 (6%)
JOURNALS	53 (72%)	30 (61%)	29 (63%)	29 (76%)	19 (54%)
LOCAL MATERIALS	34 (46%)	25 (51%)	9 (20%)	19 (50%)	3 (9%)
NEWSLETTERS	39 (53%)	23 (47%)	18 (39%)	23 (61%)	23 (66%)
TECHNICAL REPORTS	7 (9%)	4 (8%)	6 (13%)	6 (16%)	3 (9%)
	N = 74	N = 49	N = 46	N = 38	N = 35

USER GROUP: PRINCIPAL/ASST. PRINCIPAL (N = 97)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	INST METH	CLASS SUBJ	GROWTH/DEV	READING	PERSONNEL
DAILY	12 (16%)	8 (16%)	7 (15%)	6 (16%)	3 (9%)
WEEKLY	12 (16%)	12 (24%)	6 (13%)	10 (26%)	7 (20%)
MONTHLY	25 (34%)	11 (22%)	8 (17%)	9 (24%)	10 (29%)
QUARTERLY	12 (16%)	12 (24%)	11 (24%)	6 (16%)	7 (20%)
LESS OFTEN	11 (15%)	4 (8%)	10 (22%)	4 (11%)	7 (20%)
	N = 74	N = 49	N = 46	N = 38	N = 35

USER GROUP: COUNSELORS/PSYCHOLOGISTS (N = 53)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	SERVICES	GROWTH/DEV	TEST/EVAL	COMMUNITY	INST METH
REFERENCES	21 (45%)	20 (43%)	22 (52%)	8 (35%)	7 (44%)
CURRICULUM MATERIALS	20 (43%)	13 (28%)	13 (31%)	4 (17%)	11 (69%)
TECHNICAL REPORTS	22 (47%)	29 (63%)	23 (55%)	5 (22%)	7 (44%)
THEORETICAL PAPERS	26 (55%)	25 (54%)	17 (40%)	6 (26%)	6 (38%)
CASE STUDIES	33 (70%)	26 (57%)	18 (43%)	10 (43%)	11 (69%)
REVIEWS	10 (21%)	16 (35%)	8 (19%)	8 (35%)	6 (38%)
RESOURCE LISTS	28 (60%)	17 (37%)	14 (33%)	14 (61%)	5 (31%)
DATA	9 (19%)	13 (28%)	16 (38%)	5 (22%)	4 (25%)
	N = 47	N = 46	N = 42	N = 23	N = 16

USER GROUP: COUNSELCRS/PSYCHOLOGISTS (N = 53)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	SERVICES	GROWTH/DEV	TEST/EVAL	COMMUNITY	INST METH
VERY HIGH	17 (36%)	14 (30%)	15 (36%)	4 (17%)	5 (31%)
MODERATE	24 (51%)	27 (59%)	20 (48%)	13 (57%)	7 (44%)
SLIGHT	3 (6%)	1 (2%)	3 (7%)	5 (22%)	3 (19%)
	N = 47	N = 46	N = 42	N = 23	N = 16

USER GROUP: COUNSELCRS/PSYCHOLOGISTS (N = 53)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	SERVICES	GROWTH/DEV	TEST/EVAL	COMMUNITY	INST METH
BOOKS	32 (68%)	33 (72%)	25 (60%)	5 (22%)	13 (81%)
COLLEAGUES	27 (57%)	11 (24%)	13 (31%)	8 (35%)	4 (25%)
CONFERENCES	32 (68%)	18 (39%)	21 (50%)	11 (48%)	7 (44%)
EIC	8 (17%)	4 (9%)	4 (10%)	2 (9%)	4 (25%)
ERIC	3 (6%)	2 (4%)	2 (5%)	1 (4%)	2 (13%)
JOURNALS	35 (74%)	31 (67%)	30 (71%)	9 (39%)	10 (63%)
LOCAL MATERIALS	11 (23%)	7 (15%)	6 (14%)	3 (13%)	4 (25%)
NEWSLETTERS	28 (60%)	17 (37%)	16 (38%)	10 (43%)	8 (50%)
TECHNICAL REPCRTS	13 (28%)	17 (37%)	14 (33%)	0 (0%)	3 (19%)
	N = 47	N = 46	N = 42	N = 23	N = 16

USER GROUP: COUNSELORS/PSYCHOLOGISTS (N = 53)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	SERVICES	GROWTH/DEV	TEST/EVAL	COMMUNITY	INST METH
DAILY	10 (21%)	6 (13%)	4 (10%)	1 (4%)	2 (13%)
WEEKLY	13 (28%)	6 (13%)	7 (17%)	2 (9%)	2 (13%)
MONTHLY	14 (30%)	20 (43%)	16 (38%)	9 (39%)	7 (44%)
QUARTERLY	3 (6%)	6 (13%)	7 (17%)	3 (13%)	0 (0%)
LESS OFTEN	3 (6%)	5 (11%)	4 (10%)	5 (22%)	4 (25%)
	N = 47	N = 46	N = 42	N = 23	N = 16

USER GROUP: LIBRARIANS (N = 39)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	LIBRARIES	READING	INFO SCI	CLASS SUBJ	INST METH
REFERENCES	24 (69%)	1 (4%)	13 (59%)	5 (29%)	7 (41%)
CURRICULUM MATERIALS	25 (71%)	17 (71%)	10 (45%)	14 (82%)	11 (65%)
TECHNICAL REPORTS	12 (34%)	5 (21%)	3 (14%)	2 (12%)	5 (29%)
THEORETICAL PAPERS	9 (26%)	2 (8%)	6 (27%)	3 (18%)	4 (24%)
CASE STUDIES	16 (46%)	9 (38%)	5 (23%)	8 (47%)	8 (47%)
REVIEWS	15 (43%)	4 (17%)	6 (27%)	6 (35%)	4 (24%)
RESOURCE LISTS	32 (91%)	8 (33%)	13 (59%)	8 (47%)	7 (41%)
DATA	5 (14%)	1 (4%)	4 (18%)	0 (0%)	1 (6%)
	N = 35	N = 24	N = 22	N = 17	N = 17

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USER GROUP: LIERARIANS                                            (N =  39)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

                     | LIBRARIES | READING   | INFO SCI  | CLASS SUBJ| INST METH
---------------------|-----------|-----------|-----------|-----------|----------
VERY HIGH            | 21 ( 60%)|  6 ( 25%)|  4 ( 18%)|  5 ( 29%)|  2 ( 12%)
---------------------|-----------|-----------|-----------|-----------|----------
MODERATE             | 13 ( 37%)|  9 ( 38%)| 15 ( 68%)|  7 ( 41%)|  7 ( 41%)
---------------------|-----------|-----------|-----------|-----------|----------
SLIGHT               |  1 (  3%)|  7 ( 29%)|  3 ( 14%)|  4 ( 24%)|  7 ( 41%)
---------------------|-----------|-----------|-----------|-----------|----------

                       N =  35     N =  24     N =  22     N =  17     N =  17
```

USER GROUP: LIBRARIANS (N = 39)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	LIBRARIES	READING	INFO SCI	CLASS SUBJ	INST METH
BOOKS	33 (94%)	14 (58%)	11 (50%)	12 (71%)	11 (65%)
COLLEAGUES	16 (46%)	12 (50%)	4 (18%)	9 (53%)	9 (53%)
CONFERENCES	22 (63%)	13 (54%)	7 (32%)	9 (53%)	4 (24%)
EIC	13 (37%)	3 (13%)	7 (32%)	6 (35%)	2 (12%)
ERIC	0 (0%)	2 (8%)	1 (5%)	0 (0%)	1 (6%)
JOURNALS	31 (89%)	13 (54%)	11 (50%)	13 (76%)	9 (53%)
LOCAL MATERIALS	15 (43%)	9 (38%)	3 (14%)	8 (47%)	6 (35%)
NEWSLETTERS	21 (60%)	10 (42%)	8 (36%)	10 (59%)	7 (41%)
TECHNICAL REPORTS	7 (20%)	2 (8%)	4 (18%)	1 (6%)	1 (6%)
	N = 35	N = 24	N = 22	N = 17	N = 17

USER GROUP: LIBRARIANS (N = 39)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	LIBRARIES	READING	INFO SCI	CLASS SUBJ	INST METH
DAILY	16 (46%)	2 (8%)	3 (14%)	4 (24%)	1 (6%)
WEEKLY	8 (23%)	2 (8%)	5 (23%)	2 (12%)	5 (29%)
MONTHLY	8 (23%)	5 (21%)	4 (18%)	8 (47%)	3 (18%)
QUARTERLY	1 (3%)	4 (17%)	6 (27%)	1 (6%)	3 (18%)
LESS OFTEN	2 (6%)	9 (38%)	2 (9%)	2 (12%)	4 (24%)
	N = 35	N = 24	N = 22	N = 17	N = 17

USER GROUP: CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS (N = 71)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	INST METH	GROWTH/DEV	CLASS SUBJ	TEACHER ED	BUS/VOC ED
REFERENCES	37 (70%)	23 (70%)	17 (53%)	19 (61%)	19 (70%)
CURRICULUM MATERIALS	41 (77%)	15 (45%)	30 (94%)	20 (65%)	25 (93%)
TECHNICAL REPORTS	33 (62%)	17 (52%)	11 (34%)	13 (42%)	17 (63%)
THEORETICAL PAPERS	30 (57%)	21 (64%)	8 (25%)	14 (45%)	13 (48%)
CASE STUDIES	42 (79%)	17 (52%)	19 (59%)	20 (65%)	15 (56%)
REVIEWS	30 (57%)	17 (52%)	13 (41%)	12 (39%)	14 (52%)
RESOURCE LISTS	33 (62%)	18 (55%)	23 (72%)	19 (61%)	24 (89%)
DATA	5 (9%)	7 (21%)	4 (13%)	2 (6%)	7 (26%)
	N = 53	N = 33	N = 32	N = 31	N = 27

USER GROUP: CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS (N = 71)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	INST METH	GROWTH/DEV	CLASS SUBJ	TEACHER ED	BUS/VOC ED
VERY HIGH	31 (58%)	14 (42%)	11 (34%)	15 (48%)	16 (59%)
MODERATE	18 (34%)	14 (42%)	14 (44%)	13 (42%)	11 (41%)
SLIGHT	2 (4%)	3 (9%)	3 (9%)	2 (6%)	0 (0%)
	N = 53	N = 33	N = 32	N = 31	N = 27

USER GROUP: CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS (N = 71)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	INST METH	GROWTH/DEV	CLASS SUBJ	TEACHER ED	BUS/VOC ED
BOOKS	39 (74%)	22 (67%)	23 (72%)	19 (61%)	17 (63%)
COLLEAGUES	26 (49%)	14 (42%)	16 (50%)	21 (68%)	24 (89%)
CONFERENCES	39 (74%)	23 (70%)	23 (72%)	24 (77%)	24 (89%)
EIC	18 (34%)	9 (27%)	9 (28%)	8 (26%)	9 (33%)
ERIC	16 (30%)	11 (33%)	6 (19%)	7 (23%)	9 (33%)
JOURNALS	43 (81%)	25 (76%)	25 (78%)	19 (61%)	23 (85%)
LOCAL MATERIALS	21 (40%)	6 (18%)	19 (59%)	5 (16%)	17 (63%)
NEWSLETTERS	28 (53%)	10 (30%)	18 (56%)	12 (39%)	18 (67%)
TECHNICAL REPORTS	12 (23%)	10 (30%)	4 (13%)	3 (10%)	9 (33%)
	N = 53	N = 33	N = 32	N = 31	N = 27

USER GROUP: CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS (N = 71)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	INST METH	GROWTH/DEV	CLASS SUBJ	TEACHER ED	BUS/VOC ED
DAILY	7 (13%)	3 (9%)	6 (19%)	1 (3%)	7 (26%)
WEEKLY	16 (30%)	3 (9%)	7 (22%)	8 (26%)	10 (37%)
MONTHLY	17 (32%)	15 (45%)	13 (41%)	9 (29%)	6 (22%)
QUARTERLY	9 (17%)	10 (30%)	4 (13%)	8 (26%)	2 (7%)
LESS OFTEN	3 (6%)	0 (0%)	0 (0%)	3 (10%)	2 (7%)
	N = 53	N = 33	N = 32	N = 31	N = 27

USER GROUP: STATE AGENCY STAFF (N = 120)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	MANAGEMENT	GOV PROGS	INST METH	ADMIN AGY	BUS/VOC ED
REFERENCES	53 (69%)	45 (80%)	35 (69%)	26 (57%)	33 (80%)
CURRICULUM MATERIALS	19 (25%)	9 (16%)	31 (61%)	5 (11%)	24 (59%)
TECHNICAL REPORTS	51 (66%)	19 (34%)	32 (63%)	16 (35%)	25 (61%)
THEORETICAL PAPERS	38 (49%)	11 (20%)	25 (49%)	17 (37%)	17 (41%)
CASE STUDIES	41 (53%)	16 (29%)	34 (67%)	21 (46%)	24 (59%)
REVIEWS	35 (45%)	22 (39%)	23 (45%)	15 (33%)	22 (54%)
RESOURCE LISTS	40 (52%)	25 (45%)	26 (51%)	18 (39%)	29 (71%)
DATA	26 (34%)	22 (39%)	5 (10%)	23 (50%)	17 (41%)
	N = 77	N = 56	N = 51	N = 46	N = 41

```
USER GRCUP: STATE AGENCY STAFF                              (N = 120)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

                     | MANAGEMENT| GOV PROGS | INST METH | ADMIN AGY | BUS/VOC ED
---------------------|-----------|-----------|-----------|-----------|-----------
VERY HIGH            | 36 ( 47%) | 22 ( 39%) | 23 ( 45%) | 15 ( 33%) | 22 ( 54%)
---------------------|-----------|-----------|-----------|-----------|-----------
MODERATE             | 33 ( 43%) | 20 ( 36%) | 22 ( 43%) | 24 ( 52%) | 14 ( 34%)
---------------------|-----------|-----------|-----------|-----------|-----------
SLIGHT               |  4 (  5%) |  9 ( 16%) |  3 (  6%) |  4 (  9%) |  1 (  2%)
---------------------|-----------|-----------|-----------|-----------|-----------

                       N =  77     N =  56     N =  51     N =  46     N =  41
```

USER GROUP: STATE AGENCY STAFF (N = 120)

QUESTION: WHAT ARE YOUR PRINCIPAL SCURCES OF THE INFORMATION?

	MANAGEMENT	GOV PROGS	INST METH	ADMIN AGY	BUS/VOC ED
BOOKS	37 (48%)	9 (16%)	26 (51%)	12 (26%)	20 (49%)
COLLEAGUES	40 (52%)	30 (54%)	26 (51%)	24 (52%)	28 (68%)
CONFERENCES	54 (70%)	34 (61%)	32 (63%)	28 (61%)	28 (68%)
EIC	19 (25%)	12 (21%)	15 (29%)	14 (30%)	12 (29%)
ERIC	22 (29%)	11 (20%)	20 (39%)	10 (22%)	22 (54%)
JOURNALS	45 (58%)	29 (52%)	36 (71%)	24 (52%)	32 (78%)
LOCAL MATERIALS	3 (4%)	4 (7%)	19 (37%)	5 (11%)	13 (32%)
NEWSLETTERS	27 (35%)	40 (71%)	24 (47%)	22 (48%)	22 (54%)
TECHNICAL REPORTS	39 (51%)	22 (39%)	13 (25%)	14 (30%)	21 (51%)
	N = 77	N = 56	N = 51	N = 46	N = 41

```
USER GROUP: STATE AGENCY STAFF                               (N = 120)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

                    | MANAGEMENT| GOV PROGS | INST METH | ADMIN AGY | BUS/VOC ED
--------------------|-----------|-----------|-----------|-----------|-----------
DAILY               |   6 (  8%)|   6 ( 11%)|   4 (  8%)|   5 ( 11%)|   7 ( 17%)
--------------------|-----------|-----------|-----------|-----------|-----------
WEEKLY              |  25 ( 32%)|  15 ( 27%)|  12 ( 24%)|  10 ( 22%)|   9 ( 22%)
--------------------|-----------|-----------|-----------|-----------|-----------
MONTHLY             |  17 ( 22%)|  13 ( 23%)|  15 ( 29%)|  11 ( 24%)|  15 ( 37%)
--------------------|-----------|-----------|-----------|-----------|-----------
QUARTERLY           |  14 ( 18%)|  12 ( 21%)|   6 ( 12%)|   8 ( 17%)|   6 ( 15%)
--------------------|-----------|-----------|-----------|-----------|-----------
LESS OFTEN          |  10 ( 13%)|   6 ( 11%)|   8 ( 16%)|   6 ( 13%)|   1 (  2%)
--------------------|-----------|-----------|-----------|-----------|-----------

                      N =   77    N =   56    N =   51    N =   46    N =   41
```

USER GROUP: RESEARCHERS (N = 48)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	TEST/EVAL	MANAGEMENT	INST METH	GROWTH/DEV	TEACHER ED
REFERENCES	34 (92%)	20 (74%)	22 (85%)	16 (89%)	10 (91%)
CURRICULUM MATERIALS	10 (27%)	7 (26%)	17 (65%)	0 (0%)	6 (55%)
TECHNICAL REPORTS	34 (92%)	18 (67%)	19 (73%)	16 (89%)	9 (82%)
THEORETICAL PAPERS	31 (84%)	19 (70%)	18 (69%)	17 (94%)	6 (55%)
CASE STUDIES	16 (43%)	15 (56%)	20 (77%)	10 (56%)	8 (73%)
REVIEWS	17 (46%)	9 (33%)	11 (42%)	12 (67%)	7 (64%)
RESOURCE LISTS	22 (59%)	9 (33%)	13 (50%)	7 (39%)	6 (55%)
DATA	24 (65%)	8 (30%)	9 (35%)	7 (39%)	2 (18%)
	N = 37	N = 27	N = 26	N = 18	N = 11

```
USER GROUP: RESEARCHERS                                        (N =  48)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

                     | TEST/EVAL | MANAGEMENT| INST METH | GROWTH/DEV| TEACHER ED
---------------------|-----------|-----------|-----------|-----------|-----------
VERY HIGH            | 23 ( 62%)| 10 ( 37%)|  8 ( 31%)|  8 ( 44%)|  5 ( 45%)
---------------------|-----------|-----------|-----------|-----------|-----------
MODERATE             | 10 ( 27%)| 11 ( 41%)| 16 ( 62%)|  6 ( 33%)|  4 ( 36%)
---------------------|-----------|-----------|-----------|-----------|-----------
SLIGHT               |  4 ( 11%)|  6 ( 22%)|  2 (  8%)|  4 ( 22%)|  2 ( 18%)
---------------------|-----------|-----------|-----------|-----------|-----------

                       N =  37     N =  27     N =  26     N =  18     N =  11
```

USER GROUP: RESEARCHERS (N = 48)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	TEST/EVAL	MANAGEMENT	INST METH	GROWTH/DEV	TEACHER ED
BOOKS	29 (78%)	14 (52%)	18 (69%)	16 (89%)	8 (73%)
COLLEAGUES	22 (59%)	11 (41%)	19 (73%)	5 (28%)	5 (45%)
CONFERENCES	23 (62%)	15 (56%)	13 (50%)	10 (56%)	7 (64%)
EIC	8 (22%)	6 (22%)	4 (15%)	0 (0%)	3 (27%)
ERIC	15 (41%)	11 (41%)	13 (50%)	9 (50%)	5 (45%)
JOURNALS	33 (89%)	21 (78%)	23 (88%)	17 (94%)	10 (91%)
LOCAL MATERIALS	4 (11%)	1 (4%)	2 (8%)	2 (11%)	1 (9%)
NEWSLETTERS	18 (49%)	10 (37%)	11 (42%)	6 (33%)	5 (45%)
TECHNICAL REPORTS	22 (59%)	7 (26%)	10 (38%)	8 (44%)	4 (36%)
	N = 37	N = 27	N = 26	N = 18	N = 11

USER GRCUP: RESEARCHERS (N = 48)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	TEST/EVAL	MANAGEMENT	INST METH	GROWTH/DEV	TEACHER ED
DAILY	8 (22%)	2 (7%)	2 (8%)	1 (6%)	1 (9%)
WEEKLY	9 (24%)	8 (30%)	4 (15%)	3 (17%)	2 (18%)
MONTHLY	11 (30%)	8 (30%)	14 (54%)	7 (39%)	6 (55%)
QUARTERLY	4 (11%)	6 (22%)	4 (15%)	4 (22%)	1 (9%)
LESS OFTEN	4 (11%)	3 (11%)	2 (8%)	2 (11%)	1 (9%)
	N = 37	N = 27	N = 26	N = 18	N = 11

USER GROUP: PRESCHOOL/KINDERGARTEN TEACHERS (N = 148)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASSROOM USE	CURRENT AWARENESS	TEACHER TRAINING
REFERENCES	66 (47%)	73 (58%)	21 (47%)
CURRICULUM MATERIALS	127 (90%)	81 (64%)	26 (58%)
TECHNICAL REPORTS	51 (36%)	63 (50%)	18 (40%)
THEORETICAL PAPERS	38 (27%)	59 (47%)	14 (31%)
CASE STUDIES	80 (57%)	64 (51%)	21 (47%)
REVIEWS	38 (27%)	49 (39%)	14 (31%)
RESOURCE LISTS	80 (57%)	67 (53%)	20 (44%)
DATA	9 (6%)	14 (11%)	5 (11%)
	N = 141	N = 126	N = 45

USER GROUP: PRESCHOOL/KINDERGARTEN TEACHERS (N = 148)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	TEACHER TRAINING
VERY HIGH	87 (62%)	47 (37%)	11 (24%)
MODERATE	41 (29%)	60 (48%)	18 (40%)
SLIGHT	3 (2%)	8 (6%)	12 (27%)
	N = 141	N = 126	N = 45

USER GROUP: PRESCHOOL/KINDERGARTEN TEACHERS (N = 148)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	TEACHER TRAINING
BOOKS	113 (80%)	91 (72%)	20 (44%)
COLLEAGUES	99 (70%)	66 (52%)	27 (60%)
CONFERENCES	103 (73%)	93 (74%)	24 (53%)
EIC	37 (26%)	25 (20%)	10 (22%)
ERIC	5 (4%)	6 (5%)	1 (2%)
JOURNALS	66 (47%)	83 (66%)	19 (42%)
LOCAL MATERIALS	91 (65%)	44 (35%)	13 (29%)
NEWSLETTERS	57 (40%)	55 (44%)	20 (44%)
TECHNICAL REPORTS	13 (9%)	15 (12%)	5 (11%)
	N = 141	N = 126	N = 45

USER GROUP: PRESCHOOL/KINDERGARTEN TEACHERS (N = 148)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	TEACHER TRAINING
DAILY	47 (33%)	14 (11%)	1 (2%)
WEEKLY	37 (26%)	20 (16%)	6 (13%)
MONTHLY	27 (19%)	46 (37%)	7 (16%)
QUARTERLY	14 (10%)	24 (19%)	16 (36%)
LESS OFTEN	6 (4%)	13 (10%)	11 (24%)
	N = 141	N = 126	N = 45

USER GROUP: ELEMENTARY TEACHERS (N = 562)

QUESTION: WHAT TYPE OF DUCUMENT DO YOU GENERALLY NEED?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
REFERENCES	286 (52%)	297 (59%)	60 (39%)
CURRICULUM MATERIALS	510 (93%)	327 (65%)	68 (44%)
TECHNICAL REPORTS	161 (29%)	211 (42%)	45 (29%)
THEORETICAL PAPERS	108 (20%)	172 (34%)	35 (23%)
CASE STUDIES	339 (62%)	281 (56%)	78 (51%)
REVIEWS	160 (29%)	198 (40%)	39 (25%)
RESOURCE LISTS	364 (67%)	283 (56%)	75 (49%)
DATA	29 (5%)	62 (12%)	19 (12%)
	N = 547	N = 501	N = 153

USER GROUP: ELEMENTARY TEACHERS (N = 562)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
VERY HIGH	356 (65%)	200 (40%)	29 (19%)
MODERATE	148 (27%)	244 (49%)	89 (58%)
SLIGHT	23 (4%)	34 (7%)	27 (18%)
	N = 547	N = 501	N = 153

USER GROUP: ELEMENTARY TEACHERS (N = 562)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
BOOKS	488 (89%)	334 (67%)	84 (55%)
COLLEAGUES	381 (70%)	254 (51%)	88 (58%)
CONFERENCES	334 (61%)	353 (70%)	57 (37%)
EIC	143 (26%)	90 (18%)	23 (15%)
ERIC	18 (3%)	21 (4%)	3 (2%)
JOURNALS	280 (51%)	319 (64%)	75 (49%)
LOCAL MATERIALS	357 (65%)	177 (35%)	29 (19%)
NEWSLETTERS	217 (40%)	257 (51%)	52 (34%)
TECHNICAL REPCRTS	32 (6%)	64 (13%)	14 (9%)
	N = 547	N = 501	N = 153

USER GROUP: ELEMENTARY TEACHERS (N = 562)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
DAILY	179 (33%)	45 (9%)	17 (11%)
WEEKLY	208 (38%)	85 (17%)	34 (22%)
MONTHLY	93 (17%)	193 (39%)	39 (25%)
QUARTERLY	34 (6%)	101 (20%)	29 (19%)
LESS OFTEN	14 (3%)	49 (10%)	26 (17%)
	N = 547	N = 501	N = 153

USER GROUP: SECONDARY TEACHERS (N = 557)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
REFERENCES	310 (58%)	272 (58%)	51 (38%)
CURRICULUM MATERIALS	482 (90%)	287 (61%)	49 (37%)
TECHNICAL REPORTS	181 (34%)	198 (42%)	36 (27%)
THEORETICAL PAPERS	138 (26%)	179 (38%)	30 (23%)
CASE STUDIES	296 (55%)	212 (45%)	70 (53%)
REVIEWS	170 (32%)	160 (34%)	34 (26%)
RESOURCE LISTS	334 (62%)	252 (54%)	66 (50%)
DATA	50 (9%)	51 (11%)	19 (14%)
	N = 536	N = 471	N = 133

USER GROUP: SECONDARY TEACHERS (N = 557)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
VERY HIGH	313 (58%)	176 (37%)	32 (24%)
MODERATE	174 (32%)	221 (47%)	64 (48%)
SLIGHT	29 (5%)	46 (10%)	26 (20%)
	N = 536	N = 471	N = 133

USER GROUP: SECONDARY TEACHERS (N = 557)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
BOOKS	472 (88%)	296 (63%)	57 (43%)
COLLEAGUES	328 (61%)	214 (45%)	86 (65%)
CONFERENCES	298 (56%)	282 (60%)	45 (34%)
EIC	103 (19%)	75 (16%)	15 (11%)
ERIC	14 (3%)	18 (4%)	5 (4%)
JOURNALS	311 (58%)	296 (63%)	50 (38%)
LOCAL MATERIALS	261 (49%)	134 (28%)	20 (15%)
NEWSLETTERS	205 (38%)	219 (46%)	48 (36%)
TECHNICAL REPORTS	67 (13%)	69 (15%)	20 (15%)
	N = 536	N = 471	N = 133

USER GROUP: SECONDARY TEACHERS (N = 557)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
DAILY	185 (35%)	56 (12%)	11 (8%)
WEEKLY	172 (32%)	82 (17%)	31 (23%)
MONTHLY	102 (19%)	158 (34%)	35 (26%)
QUARTERLY	31 (6%)	85 (18%)	20 (15%)
LESS OFTEN	23 (4%)	65 (14%)	26 (20%)
	N = 536	N = 471	N = 133

USER GROUP: ABE TEACHERS (N = 33)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASSROOM USE	CURRENT AWARENESS	TEACHER TRAINING
REFERENCES	16 (55%)	17 (59%)	5 (50%)
CURRICULUM MATERIALS	25 (86%)	17 (59%)	5 (50%)
TECHNICAL REPORTS	11 (38%)	16 (55%)	5 (50%)
THEORETICAL PAPERS	10 (34%)	12 (41%)	3 (30%)
CASE STUDIES	16 (55%)	16 (55%)	6 (60%)
REVIEWS	8 (28%)	9 (31%)	2 (20%)
RESOURCE LISTS	15 (52%)	17 (59%)	4 (40%)
DATA	5 (17%)	7 (24%)	2 (20%)
	N = 29	N = 29	N = 10

USER GROUP: ABE TEACHERS (N = 33)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	TEACHER TRAINING
VERY HIGH	17 (59%)	15 (52%)	4 (40%)
MODERATE	7 (24%)	9 (31%)	3 (30%)
SLIGHT	2 (7%)	1 (3%)	0 (0%)
	N = 29	N = 29	N = 10

USER GRCUP: ABE TEACHERS (N = 33)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	TEACHER TRAINING
BOOKS	22 (76%)	11 (38%)	2 (20%)
COLLEAGUES	14 (48%)	11 (38%)	2 (20%)
CONFERENCES	14 (48%)	18 (62%)	5 (50%)
EIC	8 (28%)	10 (34%)	3 (30%)
ERIC	4 (14%)	4 (14%)	1 (10%)
JOURNALS	17 (59%)	18 (62%)	5 (50%)
LOCAL MATERIALS	12 (41%)	5 (17%)	3 (30%)
NEWSLETTERS	17 (59%)	12 (41%)	3 (30%)
TECHNICAL REPCRTS	10 (34%)	6 (21%)	2 (20%)
	N = 29	N = 29	N = 10

USER GROUP: ABE TEACHERS (N = 33)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	TEACHER TRAINING
DAILY	9 (31%)	4 (14%)	0 (0%)
WEEKLY	9 (31%)	8 (28%)	2 (20%)
MONTHLY	5 (17%)	7 (24%)	3 (30%)
QUARTERLY	4 (14%)	6 (21%)	2 (20%)
LESS OFTEN	1 (3%)	1 (3%)	1 (10%)
	N = 29	N = 29	N = 10

USER GROUP: POSTSECONDARY TEACHERS (N = 85)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASSROOM USE	CURRENT AWARENESS	RESEARCH
REFERENCES	50 (68%)	36 (69%)	24 (86%)
CURRICULUM MATERIALS	60 (82%)	25 (48%)	5 (18%)
TECHNICAL REPORTS	44 (60%)	40 (77%)	24 (86%)
THEORETICAL PAPERS	40 (55%)	30 (58%)	22 (79%)
CASE STUDIES	43 (59%)	27 (52%)	7 (25%)
REVIEWS	27 (37%)	25 (48%)	9 (32%)
RESOURCE LISTS	44 (60%)	27 (52%)	9 (32%)
DATA	8 (11%)	6 (12%)	12 (43%)
	N = 73	N = 52	N = 28

USER GROUP: POSTSECONDARY TEACHERS (N = 85)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	RESEARCH
VERY HIGH	47 (64%)	25 (48%)	15 (54%)
MODERATE	19 (26%)	22 (42%)	10 (36%)
SLIGHT	5 (7%)	3 (6%)	3 (11%)
	N = 73	N = 52	N = 28

USER GROUP: POSTSECONDARY TEACHERS (N = 85)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	RESEARCH
BOOKS	68 (93%)	40 (77%)	21 (75%)
COLLEAGUES	34 (47%)	28 (54%)	8 (29%)
CONFERENCES	45 (62%)	37 (71%)	15 (54%)
EIC	11 (15%)	14 (27%)	6 (21%)
ERIC	11 (15%)	10 (19%)	9 (32%)
JOURNALS	59 (81%)	42 (81%)	24 (86%)
LOCAL MATERIALS	19 (26%)	5 (10%)	1 (4%)
NEWSLETTERS	35 (48%)	32 (62%)	8 (29%)
TECHNICAL REPORTS	22 (30%)	20 (38%)	16 (57%)
	N = 73	N = 52	N = 28

USER GROUP: POSTSECONDARY TEACHERS (N = 85)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	RESEARCH
DAILY	21 (29%)	11 (21%)	5 (18%)
WEEKLY	27 (37%)	12 (23%)	11 (39%)
MONTHLY	16 (22%)	15 (29%)	6 (21%)
QUARTERLY	5 (7%)	9 (17%)	4 (14%)
LESS OFTEN	4 (5%)	5 (10%)	2 (7%)
	N = 73	N = 52	N = 28

USER GROUP: READING SPECIALISTS (N = 63)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
REFERENCES	24 (39%)	24 (44%)	5 (28%)
CURRICULUM MATERIALS	55 (90%)	32 (59%)	7 (39%)
TECHNICAL REPORTS	19 (31%)	21 (39%)	2 (11%)
THEORETICAL PAPERS	8 (13%)	14 (26%)	5 (28%)
CASE STUDIES	32 (52%)	22 (41%)	9 (50%)
REVIEWS	18 (30%)	15 (28%)	5 (28%)
RESOURCE LISTS	35 (57%)	22 (41%)	12 (67%)
DATA	5 (8%)	3 (6%)	2 (11%)
	N = 61	N = 54	N = 18

USER GROUP: READING SPECIALISTS (N = 63)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
VERY HIGH	39 (64%)	20 (37%)	5 (28%)
MODERATE	16 (26%)	26 (48%)	9 (50%)
SLIGHT	1 (2%)	3 (6%)	2 (11%)
	N = 61	N = 54	N = 18

USER GROUP: READING SPECIALISTS (N = 63)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
BOOKS	55 (90%)	35 (65%)	6 (33%)
COLLEAGUES	42 (69%)	29 (54%)	10 (56%)
CONFERENCES	33 (54%)	37 (69%)	9 (50%)
EIC	10 (16%)	9 (17%)	3 (17%)
ERIC	4 (7%)	2 (4%)	2 (11%)
JOURNALS	31 (51%)	33 (61%)	7 (39%)
LOCAL MATERIALS	44 (72%)	21 (39%)	5 (28%)
NEWSLETTERS	25 (41%)	27 (50%)	11 (61%)
TECHNICAL REPORTS	4 (7%)	6 (11%)	3 (17%)
	N = 61	N = 54	N = 18

USER GROUP: READING SPECIALISTS (N = 63)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
DAILY	20 (33%)	4 (7%)	4 (22%)
WEEKLY	23 (38%)	8 (15%)	3 (17%)
MONTHLY	9 (15%)	23 (43%)	7 (39%)
QUARTERLY	5 (8%)	13 (24%)	2 (11%)
LESS OFTEN	2 (3%)	5 (9%)	2 (11%)
	N = 61	N = 54	N = 18

USER GROUP: VOCATIONAL EDUCATORS (N = 158)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
REFERENCES	86 (57%)	61 (50%)	26 (45%)
CURRICULUM MATERIALS	133 (88%)	77 (63%)	20 (34%)
TECHNICAL REPORTS	65 (43%)	54 (44%)	11 (19%)
THEORETICAL PAPERS	40 (26%)	37 (30%)	17 (29%)
CASE STUDIES	92 (61%)	61 (50%)	25 (43%)
REVIEWS	46 (30%)	32 (26%)	13 (22%)
RESOURCE LISTS	95 (63%)	72 (59%)	29 (50%)
DATA	18 (12%)	19 (15%)	10 (17%)
	N = 151	N = 123	N = 58

USER GROUP: VOCATIONAL EDUCATORS (N = 158)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
VERY HIGH	109 (72%)	45 (37%)	17 (29%)
MODERATE	35 (23%)	61 (50%)	28 (48%)
SLIGHT	4 (3%)	9 (7%)	8 (14%)
	N = 151	N = 123	N = 58

USER GROUP: VOCATIONAL EDUCATORS (N = 158)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
BOOKS	134 (89%)	69 (56%)	21 (36%)
COLLEAGUES	97 (64%)	65 (53%)	25 (43%)
CONFERENCES	98 (65%)	83 (67%)	28 (48%)
EIC	32 (21%)	25 (20%)	9 (16%)
ERIC	12 (8%)	9 (7%)	0 (0%)
JOURNALS	93 (62%)	70 (57%)	21 (36%)
LOCAL MATERIALS	78 (52%)	27 (22%)	14 (24%)
NEWSLETTERS	79 (52%)	66 (54%)	33 (57%)
TECHNICAL REPORTS	50 (33%)	25 (20%)	11 (19%)
	N = 151	N = 123	N = 58

USER GROUP: VOCATIONAL EDUCATORS (N = 158)

QUESTION: GENERALLY, HOW FREQUENTLY DC YOU NEED THE INFORMATICN?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
DAILY	61 (40%)	17 (14%)	14 (24%)
WEEKLY	46 (30%)	32 (26%)	11 (19%)
MONTHLY	23 (15%)	39 (32%)	13 (22%)
QUARTERLY	13 (9%)	19 (15%)	7 (12%)
LESS OFTEN	4 (3%)	10 (8%)	7 (12%)
	N = 151	N = 123	N = 58

USER GROUP: SPECIAL EDUCATORS (N = 84)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
REFERENCES	43 (54%)	45 (66%)	12 (38%)
CURRICULUM MATERIALS	73 (91%)	38 (56%)	11 (34%)
TECHNICAL REPORTS	31 (39%)	32 (47%)	10 (31%)
THEORETICAL PAPERS	18 (22%)	30 (44%)	8 (25%)
CASE STUDIES	51 (64%)	34 (50%)	19 (59%)
REVIEWS	28 (35%)	30 (44%)	7 (22%)
RESOURCE LISTS	55 (69%)	41 (60%)	17 (53%)
DATA	4 (5%)	1C (15%)	5 (16%)
	N = 80	N = 68	N = 32

USER GROUP: SPECIAL EDUCATORS (N = 84)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
VERY HIGH	54 (67%)	27 (40%)	7 (22%)
MODERATE	18 (22%)	24 (35%)	16 (50%)
SLIGHT	3 (4%)	9 (13%)	5 (16%)
	N = 80	N = 68	N = 32

USER GROUP: SPECIAL EDUCATORS (N = 84)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
BOOKS	68 (85%)	39 (57%)	14 (44%)
COLLEAGUES	52 (65%)	24 (35%)	20 (63%)
CONFERENCES	48 (60%)	45 (66%)	12 (38%)
EIC	21 (26%)	18 (26%)	3 (9%)
ERIC	2 (2%)	3 (4%)	0 (0%)
JOURNALS	41 (51%)	45 (66%)	11 (34%)
LOCAL MATERIALS	53 (66%)	18 (26%)	5 (16%)
NEWSLETTERS	30 (38%)	33 (49%)	9 (28%)
TECHNICAL REPCRTS	8 (10%)	13 (19%)	3 (9%)
	N = 80	N = 68	N = 32

USER GRCUP: SPECIAL EDUCATORS (N = 84)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CLASSROOM USE	CURRENT AWARENESS	STUDENT SERVICES
DAILY	23 (29%)	5 (7%)	3 (9%)
WEEKLY	30 (38%)	5 (7%)	7 (22%)
MONTHLY	11 (14%)	32 (47%)	6 (19%)
QUARTERLY	4 (5%)	13 (19%)	6 (19%)
LESS OFTEN	6 (7%)	9 (13%)	6 (19%)
	N = 80	N = 68	N = 32

USER GROUP: SUPERINTENDENT/SCHOOL BOARD MEMBERS (N = 37)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	ADMIN FUNCTIONS	CURRENT AWARENESS	TEACHER TRAINING
REFERENCES	17 (59%)	14 (70%)	6 (60%)
CURRICULUM MATERIALS	7 (24%)	7 (35%)	5 (50%)
TECHNICAL REPORTS	16 (55%)	6 (30%)	3 (30%)
THEORETICAL PAPERS	11 (38%)	10 (50%)	4 (40%)
CASE STUDIES	18 (62%)	12 (60%)	2 (20%)
REVIEWS	11 (38%)	8 (40%)	0 (0%)
RESOURCE LISTS	13 (45%)	10 (50%)	6 (60%)
DATA	12 (41%)	5 (25%)	2 (20%)
	N = 29	N = 20	N = 10

USER GROUP: SUPERINTENDENT/SCHOOL BOARD MEMBERS (N = 37)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	ADMIN FUNCTIONS	CURRENT AWARENESS	TEACHER TRAINING
VERY HIGH	13 (45%)	7 (35%)	1 (10%)
MODERATE	13 (45%)	12 (60%)	6 (60%)
SLIGHT	0 (0%)	0 (0%)	1 (10%)
	N = 29	N = 20	N = 10

USER GROUP: SUPERINTENDENT/SCHOOL BOARD MEMBERS (N = 37)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	ADMIN FUNCTIONS	CURRENT AWARENESS	TEACHER TRAINING
BOOKS	15 (52%)	13 (65%)	6 (60%)
COLLEAGUES	21 (72%)	12 (60%)	6 (60%)
CONFERENCES	22 (76%)	19 (95%)	5 (50%)
EIC	10 (34%)	2 (10%)	1 (10%)
ERIC	6 (21%)	3 (15%)	1 (10%)
JOURNALS	22 (76%)	14 (70%)	5 (50%)
LOCAL MATERIALS	7 (24%)	7 (35%)	4 (40%)
NEWSLETTERS	21 (72%)	11 (55%)	3 (30%)
TECHNICAL REPORTS	10 (34%)	4 (20%)	2 (20%)
	N = 29	N = 20	N = 10

USER GROUP: SUPERINTENDENT/SCHOOL BOARD MEMBERS (N = 37)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	ADMIN FUNCTIONS	CURRENT AWARENESS	TEACHER TRAINING
DAILY	9 (31%)	2 (10%)	0 (0%)
WEEKLY	12 (41%)	2 (10%)	1 (10%)
MONTHLY	2 (7%)	13 (65%)	1 (10%)
QUARTERLY	4 (14%)	1 (5%)	4 (40%)
LESS OFTEN	0 (0%)	1 (5%)	2 (20%)
	N = 29	N = 20	N = 10

USER GROUP: PRINCIPAL/ASST. PRINCIPAL (N = 97)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	ADMIN FUNCTIONS	CLASSROOM USE	CURRENT AWARENESS
REFERENCES	40 (51%)	39 (65%)	38 (68%)
CURRICULUM MATERIALS	45 (57%)	50 (83%)	35 (63%)
TECHNICAL REPORTS	38 (48%)	27 (45%)	34 (61%)
THEORETICAL PAPERS	26 (33%)	24 (40%)	27 (48%)
CASE STUDIES	55 (70%)	49 (82%)	39 (70%)
REVIEWS	27 (34%)	23 (38%)	24 (43%)
RESOURCE LISTS	40 (51%)	41 (68%)	37 (66%)
DATA	28 (35%)	10 (17%)	12 (21%)
	N = 79	N = 60	N = 56

USER GROUP: PRINCIPAL/ASST. PRINCIPAL (N = 97)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	ADMIN FUNCTIONS	CLASSROOM USE	CURRENT AWARENESS
VERY HIGH	39 (49%)	28 (47%)	25 (45%)
MODERATE	31 (39%)	27 (45%)	27 (48%)
SLIGHT	4 (5%)	3 (5%)	2 (4%)
	N = 79	N = 60	N = 56

USER GROUP: PRINCIPAL/ASST. PRINCIPAL (N = 97)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	ADMIN FUNCTIONS	CLASSROOM USE	CURRENT AWARENESS
BOOKS	40 (51%)	47 (78%)	38 (68%)
COLLEAGUES	55 (70%)	43 (72%)	39 (70%)
CONFERENCES	53 (67%)	41 (68%)	38 (68%)
EIC	12 (15%)	6 (10%)	15 (27%)
ERIC	4 (5%)	3 (5%)	6 (11%)
JOURNALS	50 (63%)	44 (73%)	40 (71%)
LOCAL MATERIALS	20 (25%)	30 (50%)	20 (36%)
NEWSLETTERS	47 (59%)	38 (63%)	37 (66%)
TECHNICAL REPORTS	12 (15%)	7 (12%)	13 (23%)
	N = 79	N = 60	N = 56

USER GROUP: PRINCIPAL/ASST. PRINCIPAL (N = 97)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	ADMIN FUNCTIONS	CLASSROOM USE	CURRENT AWARENESS
DAILY	21 (27%)	9 (15%)	9 (16%)
WEEKLY	15 (19%)	9 (15%)	10 (18%)
MONTHLY	18 (23%)	25 (42%)	21 (38%)
QUARTERLY	15 (19%)	10 (17%)	9 (16%)
LESS OFTEN	6 (8%)	6 (10%)	5 (9%)
	N = 79	N = 60	N = 56

USER GROUP: COUNSELORS/PSYCHOLOGISTS (N = 53)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	STUDENT SERVICES	CURRENT AWARENESS	CONSULTING
REFERENCES	21 (50%)	19 (63%)	17 (57%)
CURRICULUM MATERIALS	18 (43%)	9 (30%)	16 (53%)
TECHNICAL REPORTS	19 (45%)	13 (43%)	17 (57%)
THEORETICAL PAPERS	24 (57%)	21 (70%)	9 (30%)
CASE STUDIES	27 (64%)	13 (43%)	16 (53%)
REVIEWS	15 (36%)	10 (33%)	6 (20%)
RESOURCE LISTS	24 (57%)	11 (37%)	16 (53%)
DATA	10 (24%)	5 (17%)	7 (23%)
	N = 42	N = 30	N = 30

USER GROUP: COUNSELORS/PSYCHOLOGISTS (N = 53)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	STUDENT SERVICES	CURRENT AWARENESS	CONSULTING
VERY HIGH	20 (48%)	6 (20%)	10 (33%)
MODERATE	19 (45%)	18 (60%)	16 (53%)
SLIGHT	0 (0%)	3 (10%)	1 (3%)
	N = 42	N = 30	N = 30

USER GROUP: COUNSELORS/PSYCHOLOGISTS (N = 53)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	STUDENT SERVICES	CURRENT AWARENESS	CONSULTING
BOOKS	31 (74%)	23 (77%)	21 (70%)
COLLEAGUES	28 (67%)	11 (37%)	13 (43%)
CONFERENCES	29 (69%)	18 (60%)	18 (60%)
EIC	7 (17%)	3 (10%)	7 (23%)
ERIC	1 (2%)	2 (7%)	2 (7%)
JOURNALS	34 (81%)	22 (73%)	21 (70%)
LOCAL MATERIALS	12 (29%)	6 (20%)	11 (37%)
NEWSLETTERS	26 (62%)	17 (57%)	18 (60%)
TECHNICAL REPORTS	11 (26%)	6 (20%)	13 (43%)
	N = 42	N = 30	N = 30

USER GROUP: COUNSELORS/PSYCHOLOGISTS (N = 53)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	STUDENT SERVICES	CURRENT AWARENESS	CONSULTING
DAILY	15 (36%)	2 (7%)	7 (23%)
WEEKLY	10 (24%)	9 (30%)	6 (20%)
MONTHLY	13 (31%)	8 (27%)	10 (33%)
QUARTERLY	0 (0%)	5 (17%)	3 (10%)
LESS OFTEN	2 (5%)	3 (10%)	1 (3%)
	N = 42	N = 30	N = 30

USER GRCUP: LIBRARIANS (N = 39)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	STUDENT SERVICES	CONSULTING	CLASSROOM USE
REFERENCES	23 (66%)	20 (65%)	8 (62%)
CURRICULUM MATERIALS	26 (74%)	20 (65%)	10 (77%)
TECHNICAL REPORTS	8 (23%)	7 (23%)	3 (23%)
THEORETICAL PAPERS	9 (26%)	4 (13%)	1 (8%)
CASE STUDIES	15 (43%)	8 (26%)	6 (46%)
REVIEWS	15 (43%)	15 (48%)	2 (15%)
RESOURCE LISTS	25 (71%)	21 (68%)	9 (69%)
DATA	6 (17%)	7 (23%)	1 (8%)
	N = 35	N = 31	N = 13

USER GROUP: LIBRARIANS (N = 39)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	STUDENT SERVICES	CONSULTING	CLASSROOM USE
VERY HIGH	17 (49%)	14 (45%)	4 (31%)
MODERATE	10 (29%)	9 (29%)	5 (38%)
SLIGHT	1 (3%)	4 (13%)	2 (15%)
	N = 35	N = 31	N = 13

USER GROUP: LIBRARIANS (N = 39)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	STUDENT SERVICES	CONSULTING	CLASSROOM USE
BOOKS	31 (89%)	26 (84%)	9 (69%)
COLLEAGUES	17 (49%)	14 (45%)	5 (38%)
CONFERENCES	15 (43%)	13 (42%)	5 (38%)
EIC	10 (29%)	7 (23%)	2 (15%)
ERIC	0 (0%)	2 (6%)	1 (8%)
JOURNALS	23 (66%)	20 (65%)	7 (54%)
LOCAL MATERIALS	19 (54%)	17 (55%)	7 (54%)
NEWSLETTERS	21 (60%)	17 (55%)	4 (31%)
TECHNICAL REPORTS	5 (14%)	8 (26%)	1 (8%)
	N = 35	N = 31	N = 13

USER GROUP: LIBRARIANS (N = 39)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	STUDENT SERVICES	CONSULTING	CLASSROOM USE
DAILY	19 (54%)	17 (55%)	4 (31%)
WEEKLY	5 (14%)	4 (13%)	1 (8%)
MONTHLY	5 (14%)	5 (16%)	3 (23%)
QUARTERLY	0 (0%)	1 (3%)	0 (0%)
LESS OFTEN	1 (3%)	1 (3%)	1 (8%)
	N = 35	N = 31	N = 13

USER GROUP: CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS (N = 71)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CONSULTING	CLASSROOM USE	CURRENT AWARENESS
REFERENCES	34 (74%)	28 (62%)	24 (71%)
CURRICULUM MATERIALS	33 (72%)	37 (82%)	24 (71%)
TECHNICAL REPORTS	33 (72%)	24 (53%)	17 (50%)
THEORETICAL PAPERS	26 (57%)	17 (38%)	20 (59%)
CASE STUDIES	29 (63%)	30 (67%)	22 (65%)
REVIEWS	30 (65%)	18 (40%)	17 (50%)
RESOURCE LISTS	39 (85%)	28 (62%)	20 (59%)
DATA	19 (41%)	8 (18%)	10 (29%)
	N = 46	N = 45	N = 34

USER GROUP: CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS (N = 71)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CONSULTING	CLASSROOM USE	CURRENT AWARENESS
VERY HIGH	32 (70%)	33 (73%)	21 (62%)
MODERATE	10 (22%)	8 (18%)	9 (26%)
SLIGHT	2 (4%)	1 (2%)	1 (3%)
	N = 46	N = 45	N = 34

USER GROUP: CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS (N = 71)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CONSULTING	CLASSROOM USE	CURRENT AWARENESS
BOOKS	33 (72%)	34 (76%)	24 (71%)
COLLEAGUES	30 (65%)	24 (53%)	20 (59%)
CONFERENCES	34 (74%)	35 (78%)	25 (74%)
EIC	16 (35%)	17 (38%)	12 (35%)
ERIC	20 (43%)	16 (36%)	11 (32%)
JOURNALS	36 (78%)	34 (76%)	25 (74%)
LOCAL MATERIALS	21 (46%)	22 (49%)	11 (32%)
NEWSLETTERS	32 (70%)	26 (58%)	21 (62%)
TECHNICAL REPORTS	23 (50%)	11 (24%)	17 (50%)
	N = 46	N = 45	N = 34

USER GROUP: CONSULTANTS/SUPERVISORS/CURRICULUM DIRECTORS (N = 71)

QUESTION: GENERALLY, HOW FREQUENTLY DC YOU NEED THE INFORMATICN?

	CONSULTING	CLASSROOM USE	CURRENT AWARENESS
DAILY	14 (30%)	12 (27%)	9 (26%)
WEEKLY	14 (30%)	11 (24%)	6 (18%)
MONTHLY	10 (22%)	14 (31%)	10 (29%)
QUARTERLY	5 (11%)	3 (7%)	4 (12%)
LESS OFTEN	0 (0%)	1 (2%)	2 (6%)
	N = 46	N = 45	N = 34

USER GROUP: STATE AGENCY STAFF (N = 120)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	CONSULTING	CURRENT AWARENESS	ADMIN FUNCTIONS
REFERENCES	57 (78%)	50 (70%)	36 (54%)
CURRICULUM MATERIALS	27 (37%)	32 (45%)	26 (39%)
TECHNICAL REPORTS	54 (74%)	36 (51%)	33 (49%)
THEORETICAL PAPERS	45 (62%)	41 (58%)	24 (36%)
CASE STUDIES	48 (66%)	44 (62%)	35 (52%)
REVIEWS	38 (52%)	33 (46%)	25 (37%)
RESOURCE LISTS	58 (79%)	43 (61%)	38 (57%)
DATA	33 (45%)	22 (31%)	32 (48%)
	N = 73	N = 71	N = 67

USER GRCUP: STATE AGENCY STAFF (N = 120)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	CONSULTING	CURRENT AWARENESS	ADMIN FUNCTIONS
VERY HIGH	42 (58%)	32 (45%)	28 (42%)
MODERATE	25 (34%)	31 (44%)	30 (45%)
SLIGHT	5 (7%)	3 (4%)	4 (6%)
	N = 73	N = 71	N = 67

USER GROUP: STATE AGENCY STAFF (N = 120)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	CONSULTING	CURRENT AWARENESS	ADMIN FUNCTIONS
BOOKS	40 (55%)	36 (51%)	31 (46%)
COLLEAGUES	45 (62%)	40 (56%)	38 (57%)
CONFERENCES	52 (71%)	52 (73%)	44 (66%)
EIC	22 (30%)	19 (27%)	16 (24%)
ERIC	34 (47%)	29 (41%)	22 (33%)
JOURNALS	59 (81%)	53 (75%)	36 (54%)
LOCAL MATERIALS	17 (23%)	13 (18%)	4 (6%)
NEWSLETTERS	51 (70%)	50 (70%)	39 (58%)
TECHNICAL REPORTS	42 (58%)	32 (45%)	32 (48%)
	N = 73	N = 71	N = 67

USER GROUP: STATE AGENCY STAFF (N = 120)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATION?

	CONSULTING	CURRENT AWARENESS	ADMIN FUNCTIONS
DAILY	24 (33%)	16 (23%)	18 (27%)
WEEKLY	20 (27%)	12 (17%)	17 (25%)
MONTHLY	21 (29%)	24 (34%)	13 (19%)
QUARTERLY	4 (5%)	9 (13%)	8 (12%)
LESS OFTEN	2 (3%)	4 (6%)	5 (7%)
	N = 73	N = 71	N = 67

USER GROUP: RESEARCHERS (N = 48)

QUESTION: WHAT TYPE OF DOCUMENT DO YOU GENERALLY NEED?

	RESEARCH	CONSULTING	CURRENT AWARENESS
REFERENCES	30 (83%)	22 (79%)	21 (88%)
CURRICULUM MATERIALS	2 (6%)	10 (36%)	6 (25%)
TECHNICAL REPORTS	33 (92%)	22 (79%)	19 (79%)
THEORETICAL PAPERS	31 (86%)	18 (64%)	18 (75%)
CASE STUDIES	19 (53%)	18 (64%)	14 (58%)
REVIEWS	16 (44%)	17 (61%)	14 (58%)
RESOURCE LISTS	17 (47%)	14 (50%)	9 (38%)
DATA	20 (56%)	13 (46%)	7 (29%)
	N = 36	N = 28	N = 24

USER GROUP: RESEARCHERS (N = 48)

QUESTION: GENERALLY, HOW INTENSE IS YOUR NEED FOR THE INFORMATION?

	RESEARCH	CONSULTING	CURRENT AWARENESS
VERY HIGH	29 (81%)	17 (61%)	13 (54%)
MODERATE	4 (11%)	7 (25%)	8 (33%)
SLIGHT	2 (6%)	3 (11%)	1 (4%)
	N = 36	N = 28	N = 24

USER GROUP: RESEARCHERS (N = 48)

QUESTION: WHAT ARE YOUR PRINCIPAL SOURCES OF THE INFORMATION?

	RESEARCH	CONSULTING	CURRENT AWARENESS
BOOKS	28 (78%)	15 (54%)	18 (75%)
COLLEAGUES	24 (67%)	16 (57%)	16 (67%)
CONFERENCES	26 (72%)	19 (68%)	14 (58%)
EIC	7 (19%)	7 (25%)	5 (21%)
ERIC	18 (50%)	14 (50%)	9 (38%)
JOURNALS	31 (86%)	22 (79%)	19 (79%)
LOCAL MATERIALS	3 (8%)	4 (14%)	4 (17%)
NEWSLETTERS	8 (22%)	14 (50%)	10 (42%)
TECHNICAL REPORTS	25 (69%)	14 (50%)	13 (54%)
	N = 36	N = 28	N = 24

USER GROUP: RESEARCHERS (N = 48)

QUESTION: GENERALLY, HOW FREQUENTLY DO YOU NEED THE INFORMATICN?

	RESEARCH	CONSULTING	CURRENT AWARENESS
DAILY	13 (36%)	9 (32%)	3 (13%)
WEEKLY	8 (22%)	5 (18%)	11 (46%)
MONTHLY	7 (19%)	9 (32%)	5 (21%)
QUARTERLY	4 (11%)	1 (4%)	3 (13%)
LESS OFTEN	1 (3%)	1 (4%)	0 (0%)
	N = 36	N = 28	N = 24